FIGURE 1A
Mixing of antigens and oligonucleotide-conjugated antibodies

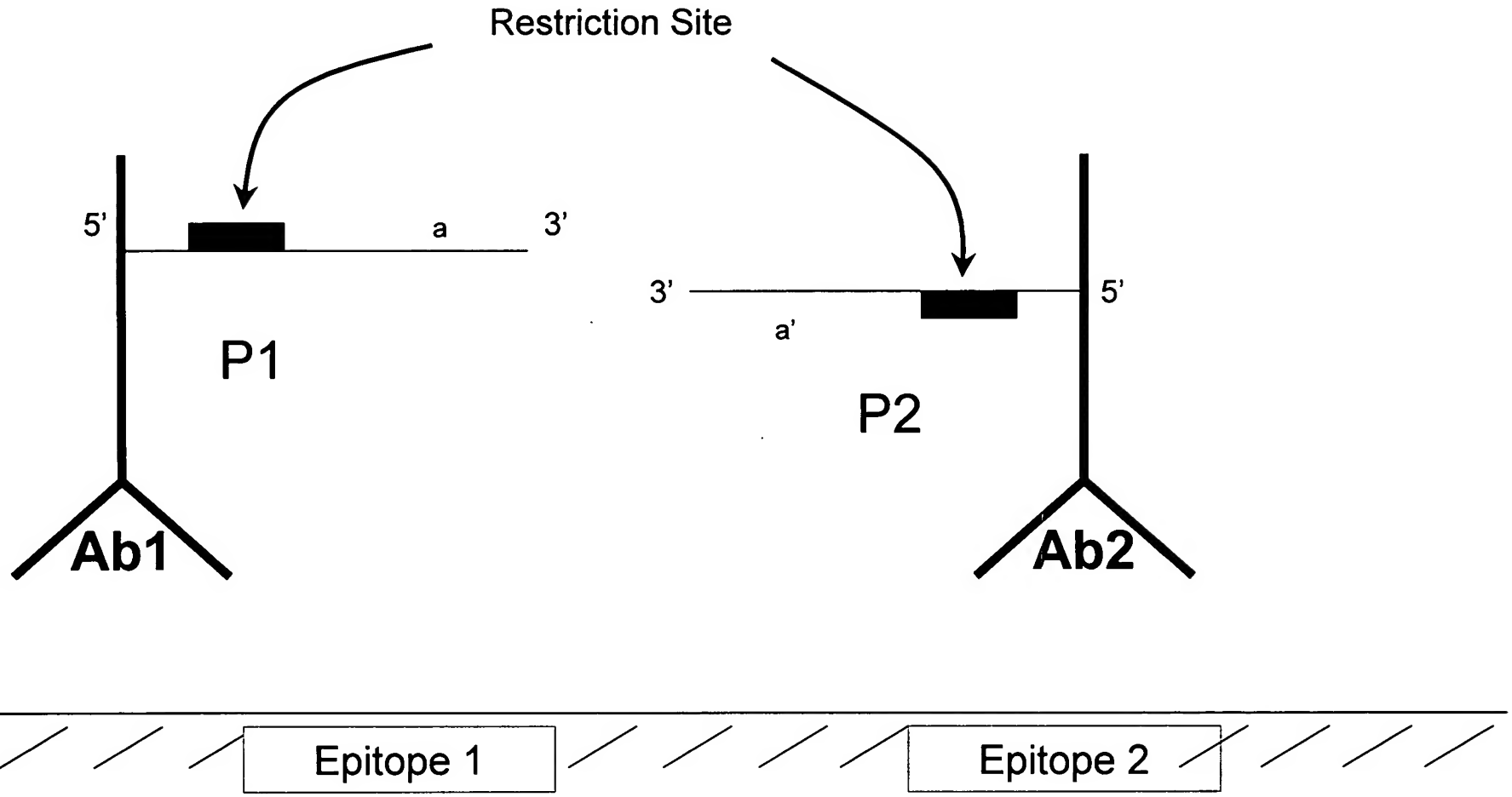


FIGURE 1B
Hybridization of adjacent oligonucleotide probes

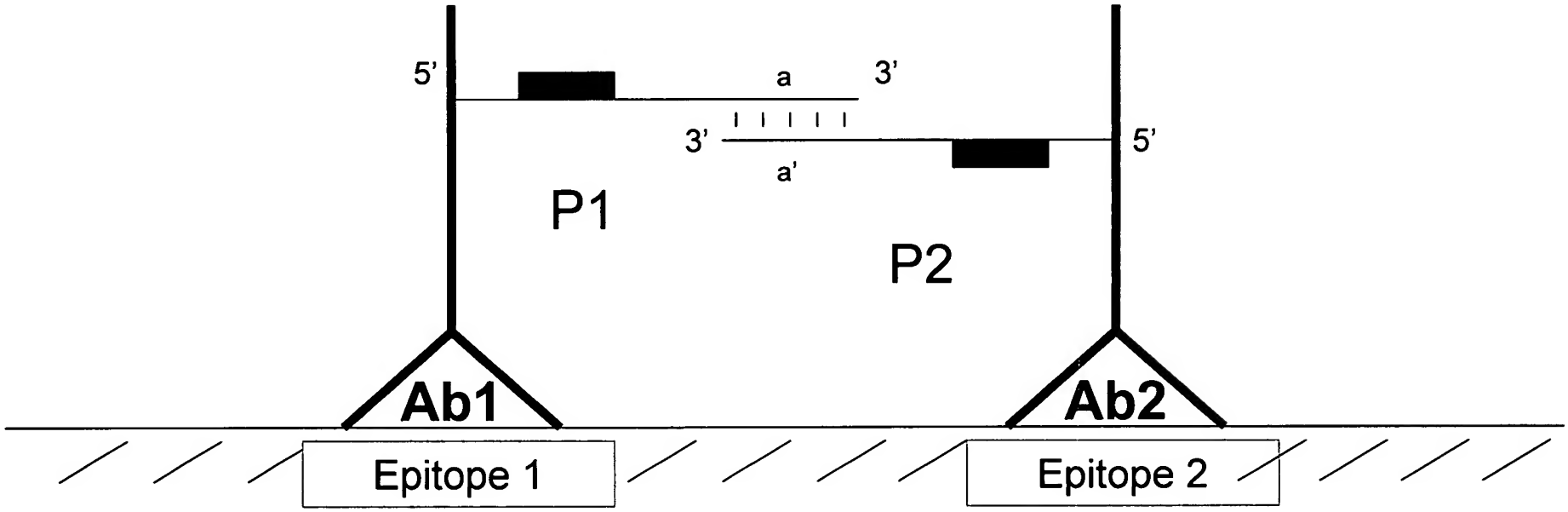


FIGURE 1C
Polymerase extension and restriction enzyme nicking

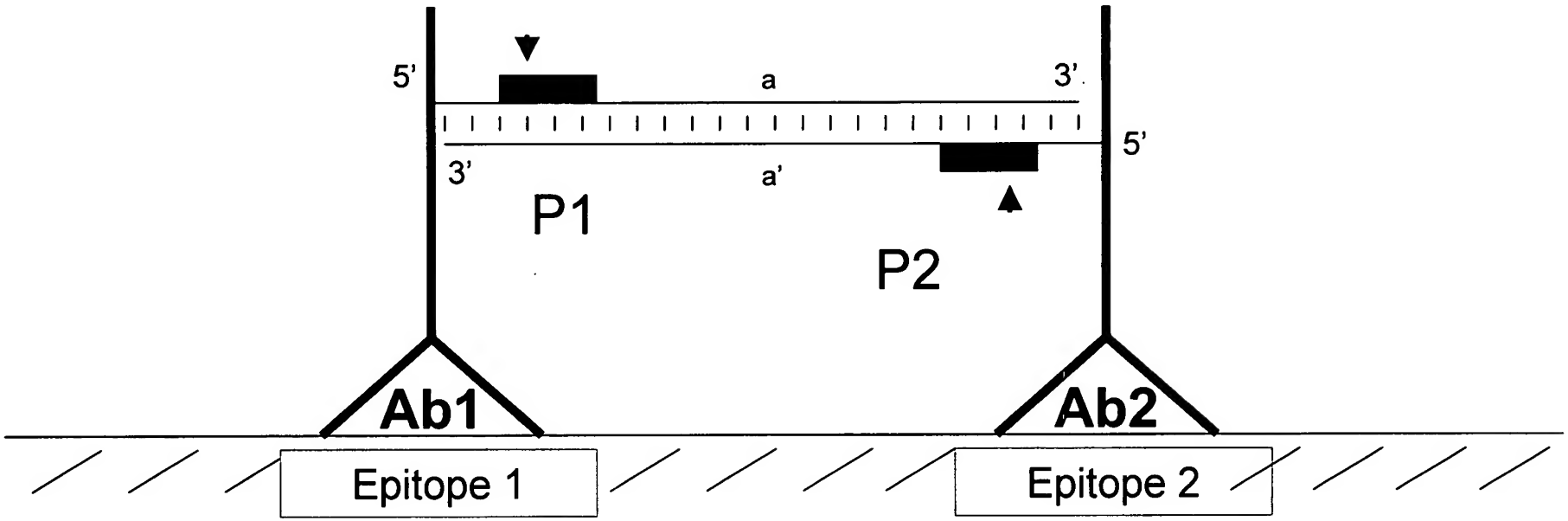


FIGURE 1D
Extension, displacement and linear amplification

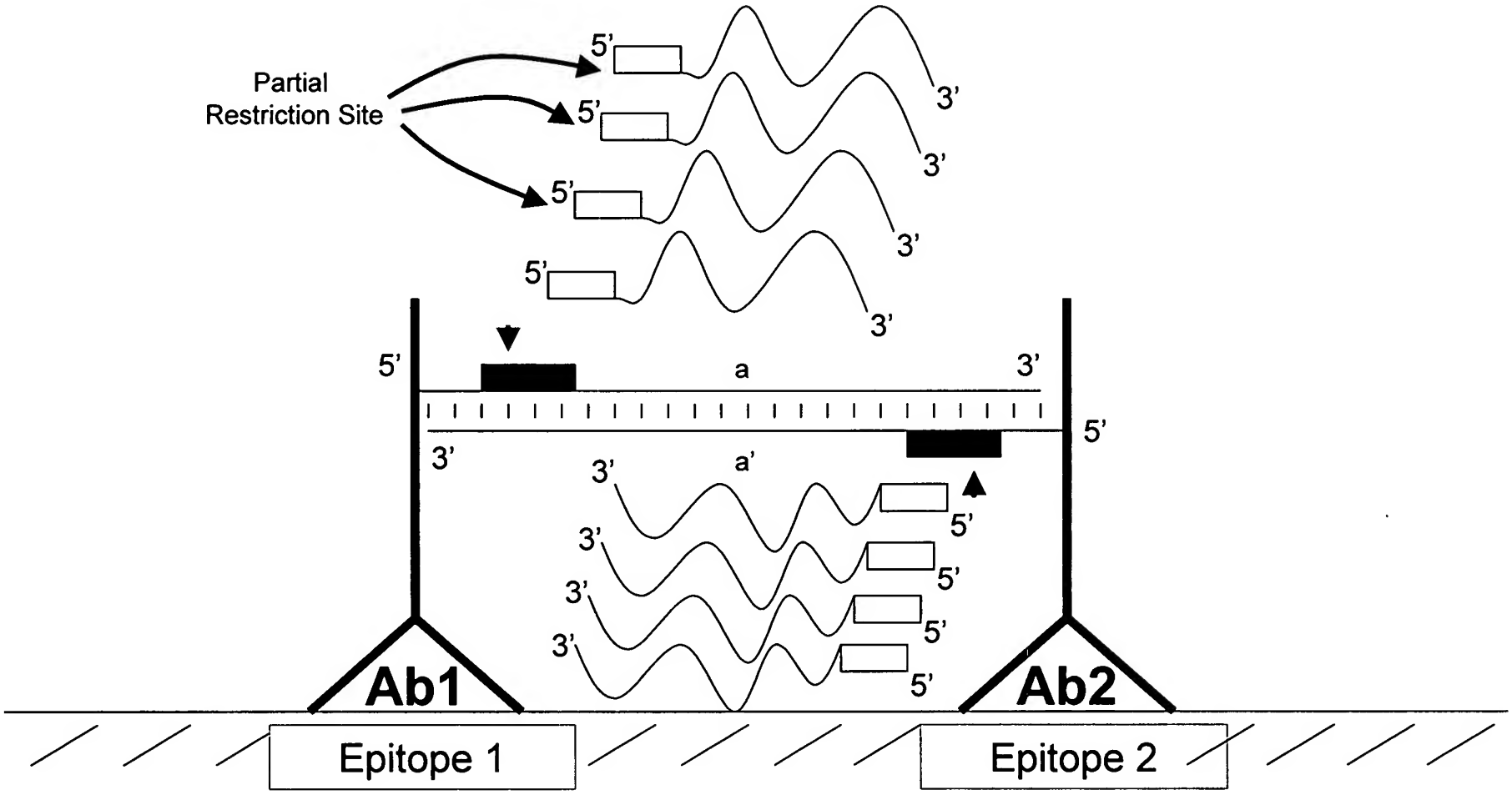


FIGURE 1E

Hybridization, polymerase extension, nicking and exponential amplification

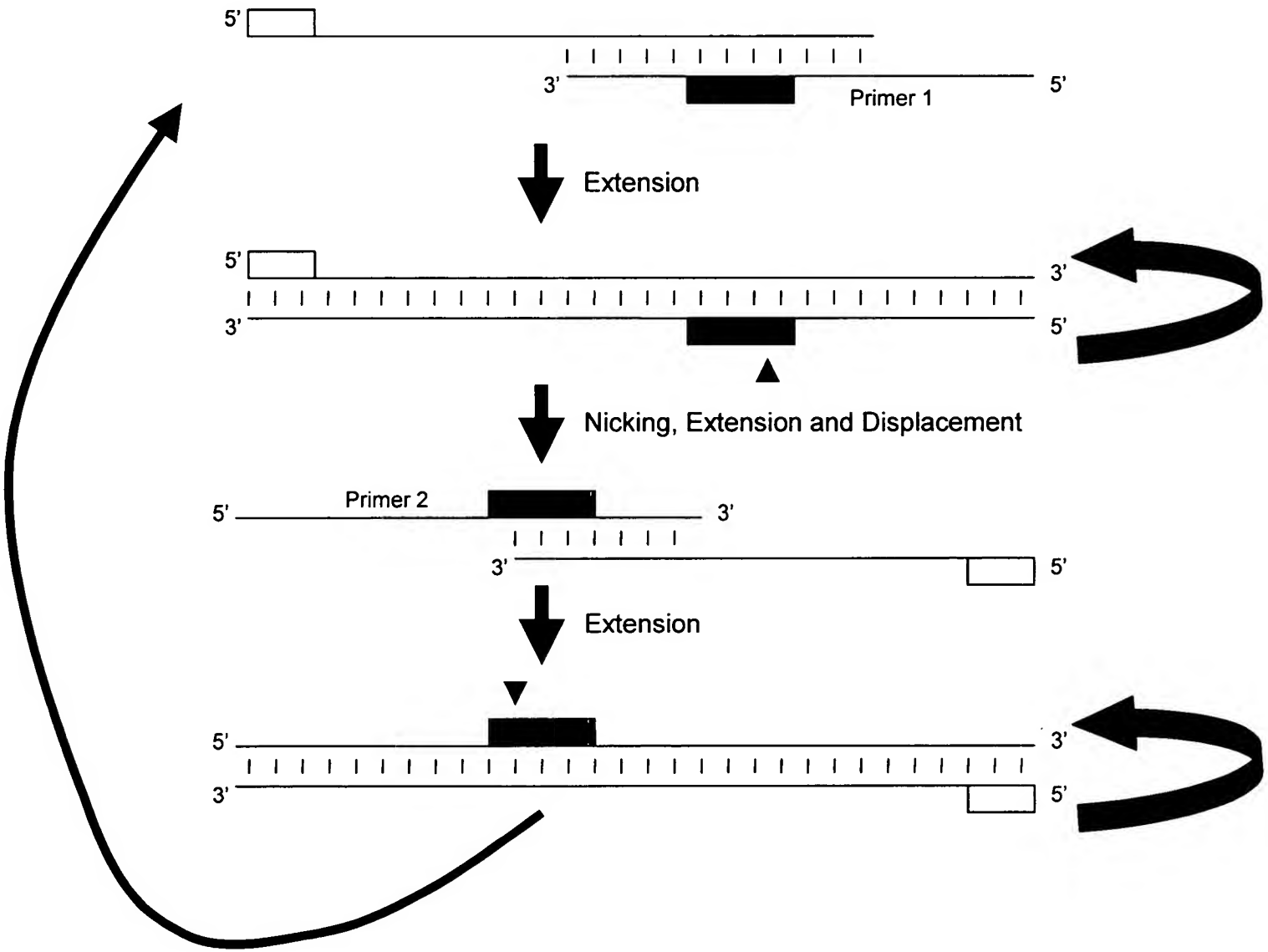


FIGURE 1F
Mixing of antigens and oligonucleotide-conjugated antibodies

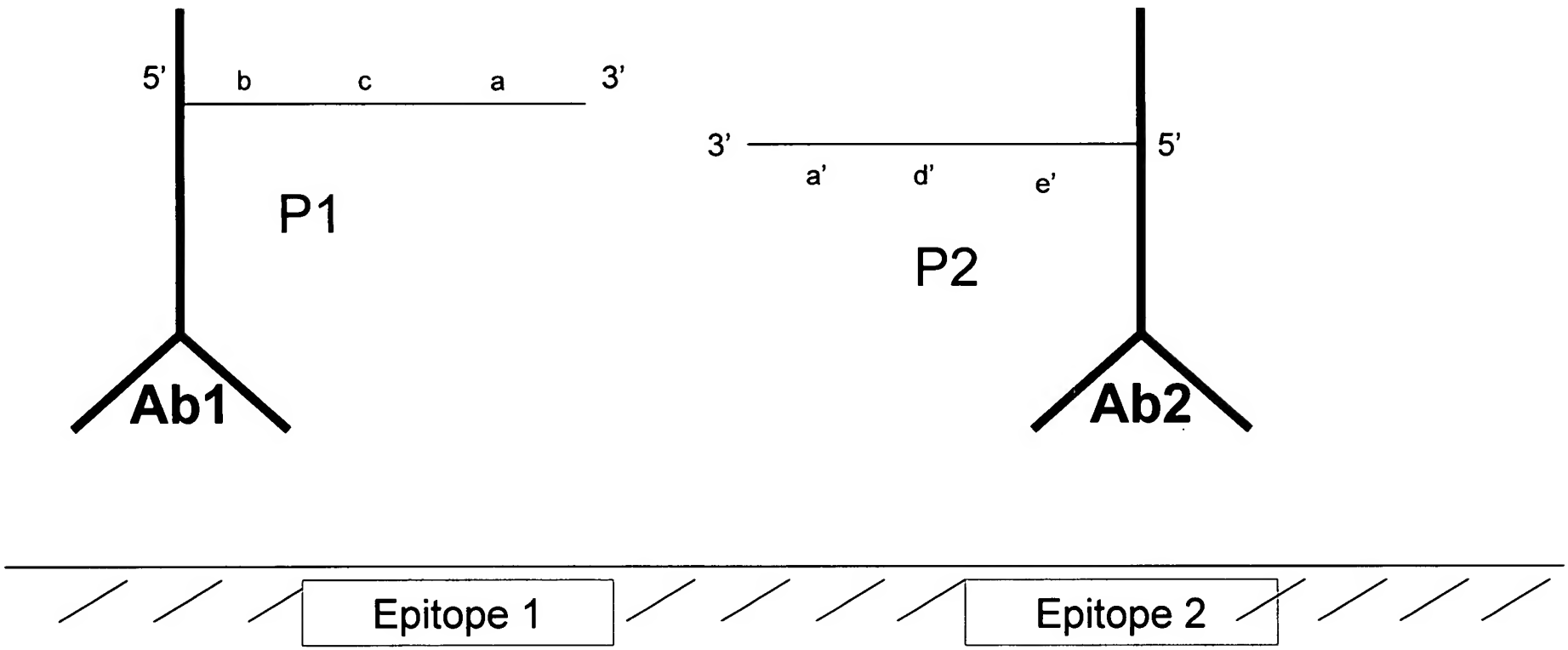


FIGURE 1G
Hybridization of adjacent oligonucleotide probes

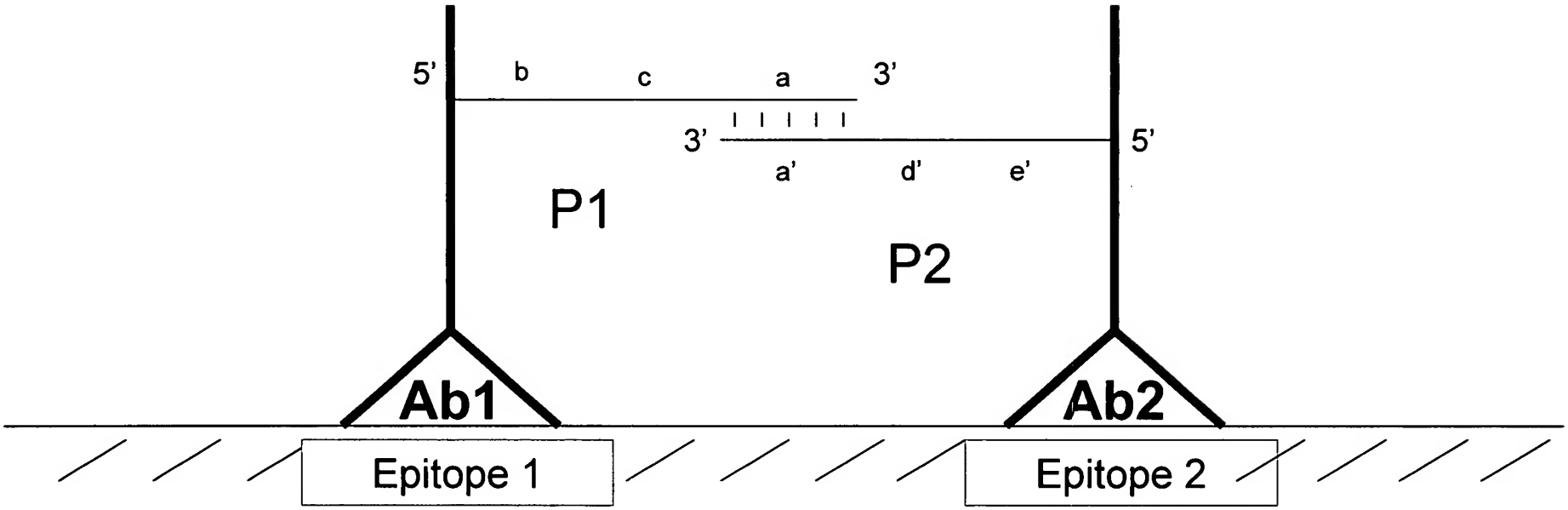


FIGURE 1H
Extend oligonucleotide probes with polymerase

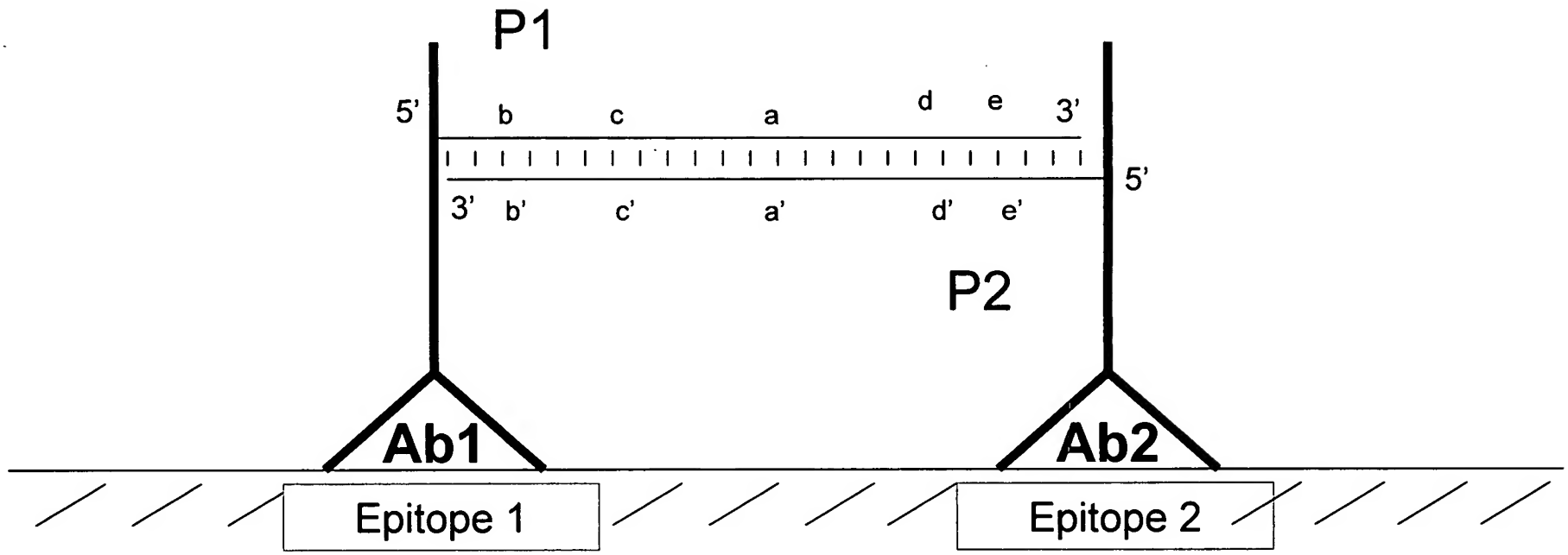


FIGURE 1I
Denature probe-extension duplex and
bind SDA primers (SP1, SP2) and bumpers (SB1,SB2)

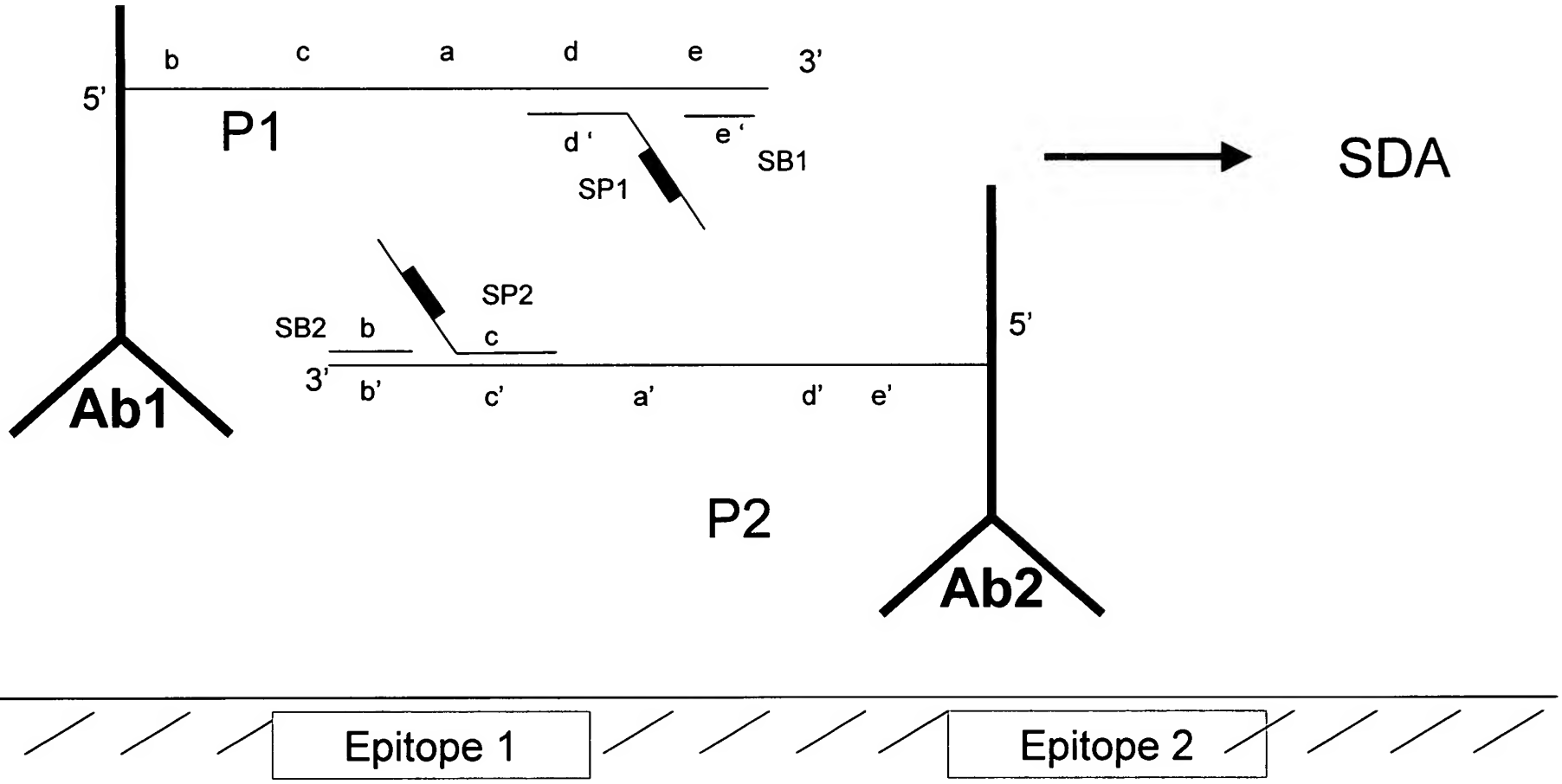


FIGURE 1J

Amplicon formation from hybridized probes of opposite sequence orientation

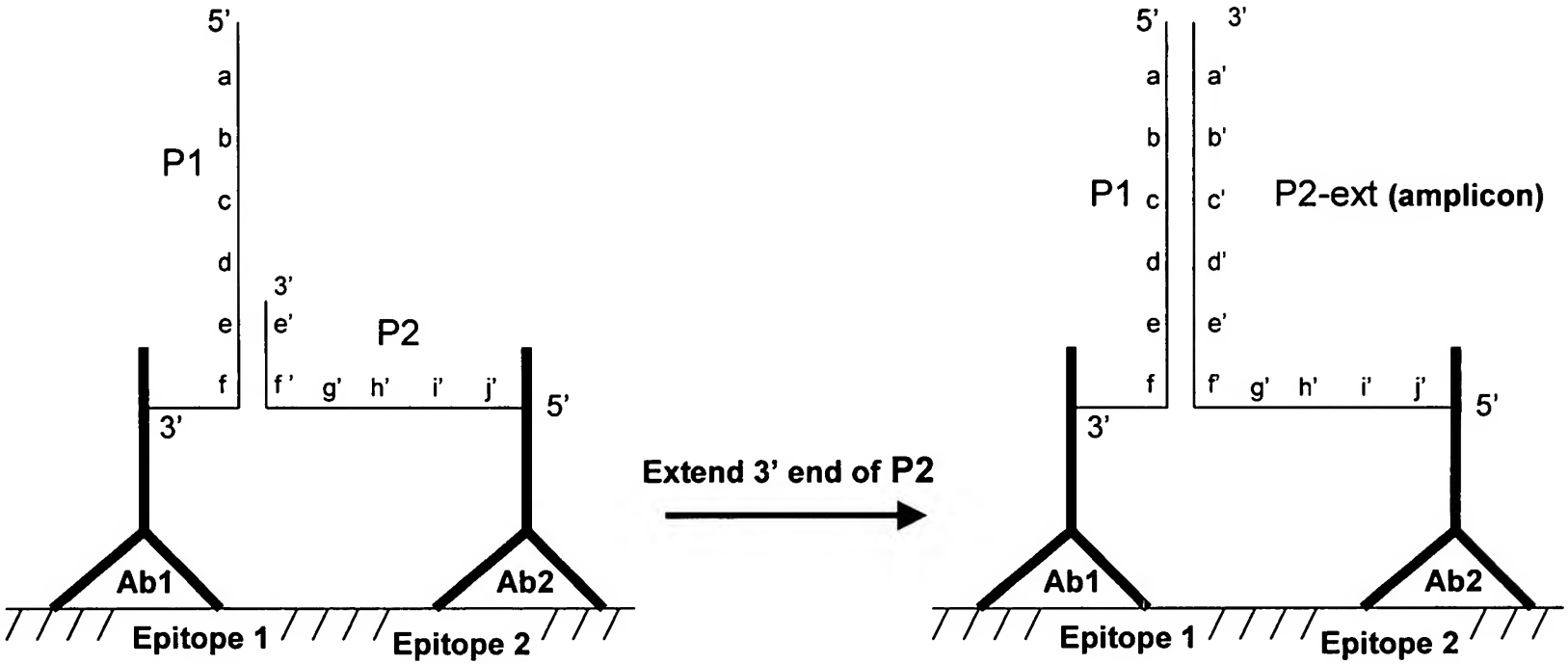


FIGURE 2A
Hybridization of splint oligonucleotide

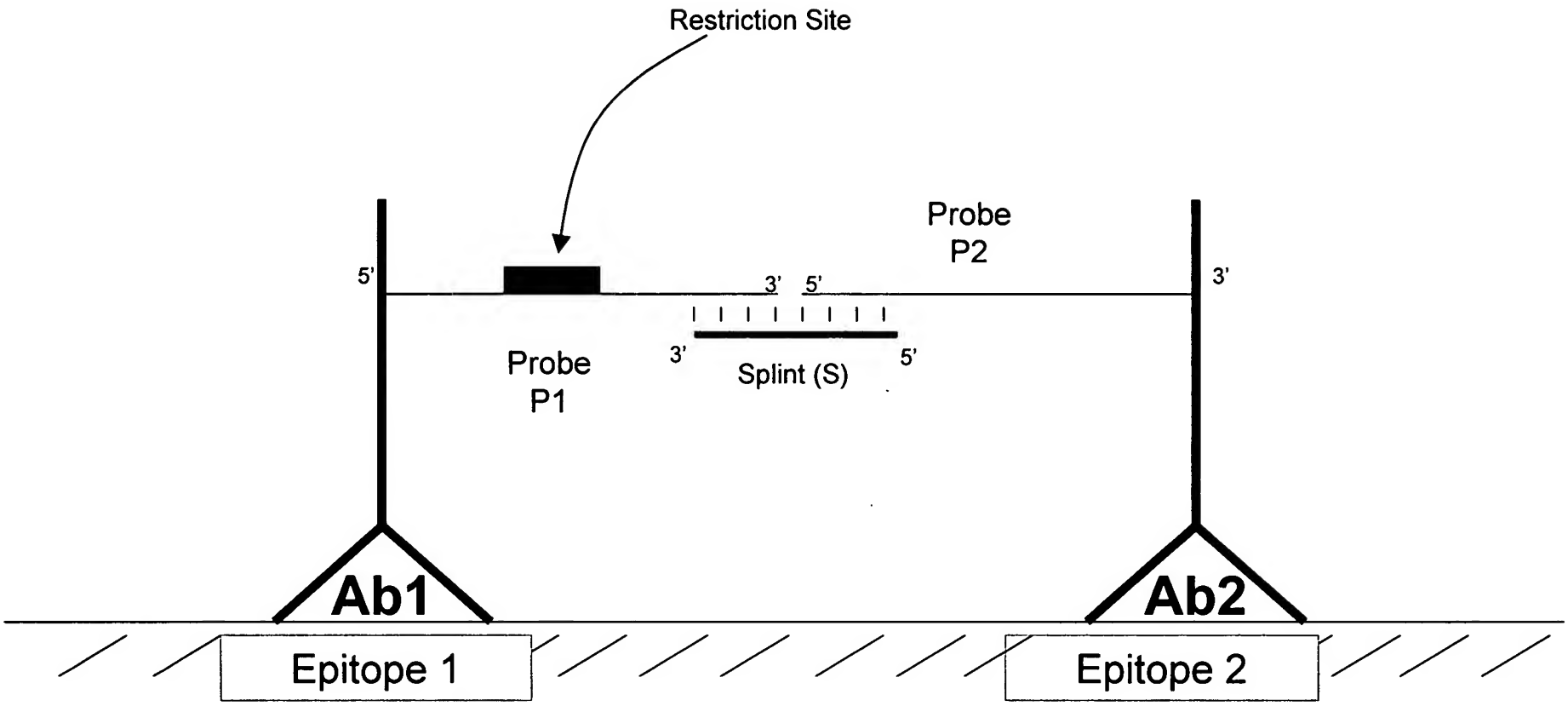


FIGURE 2B
Ligation of adjacent oligonucleotide probes

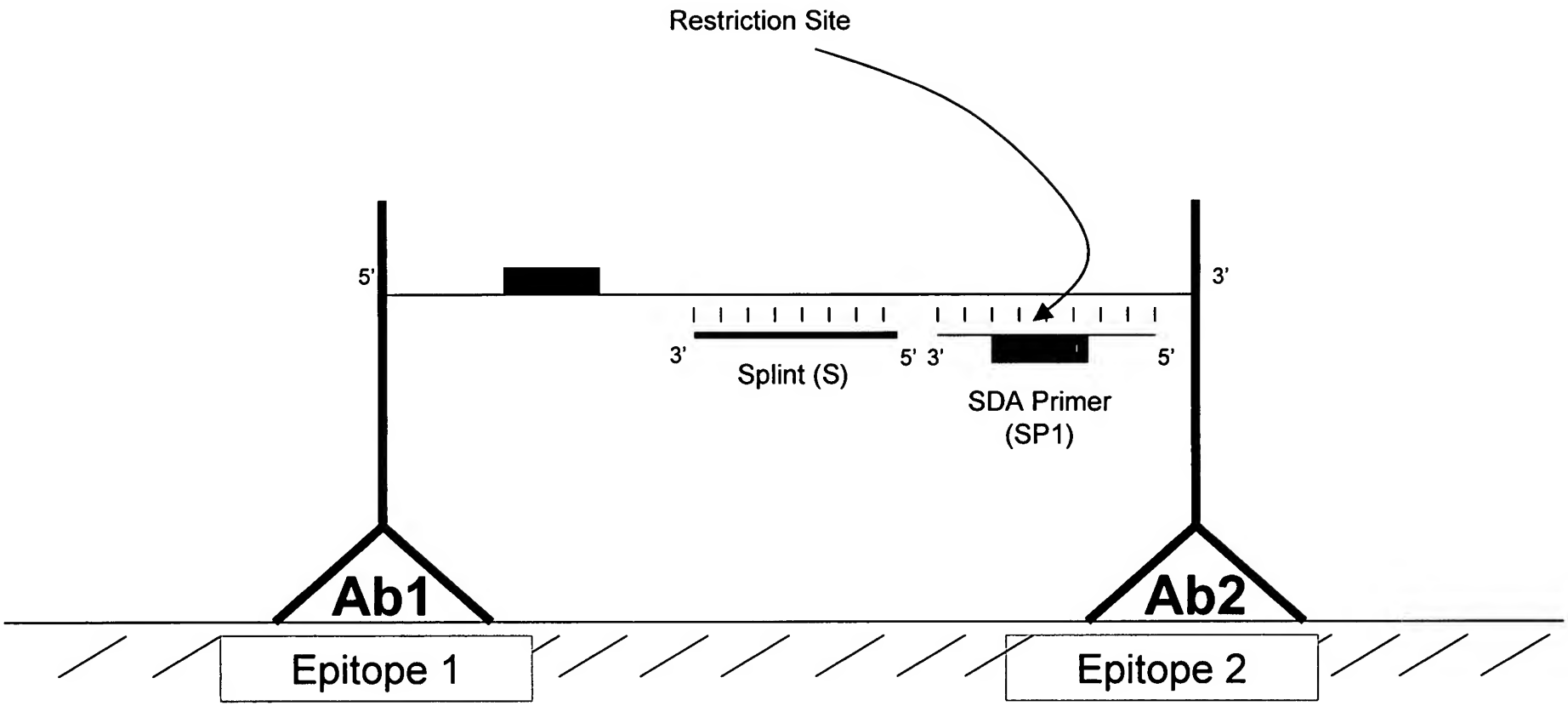


FIGURE 2C
DNA polymerase extension and displacement

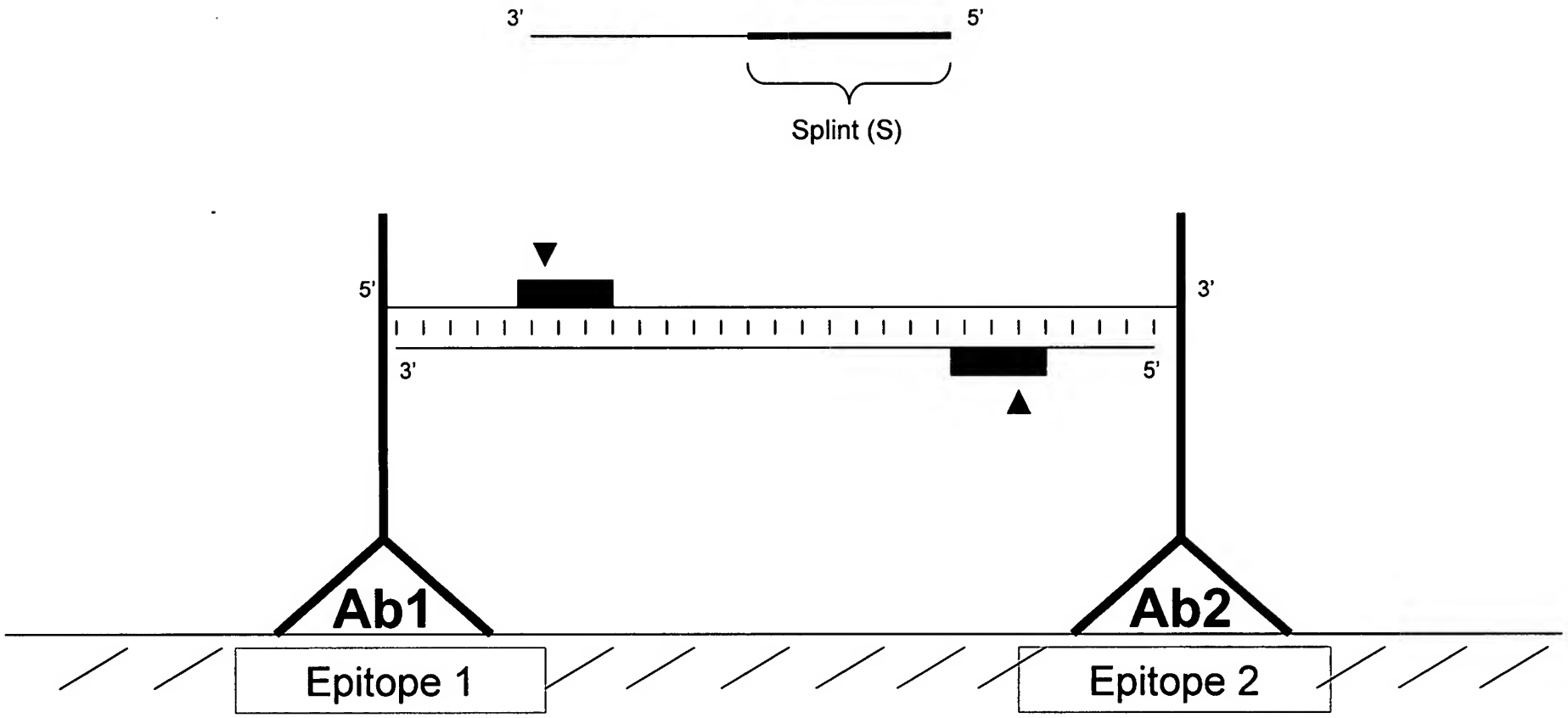


FIGURE 2D
Use of two hybridized probes to ligate a third probe

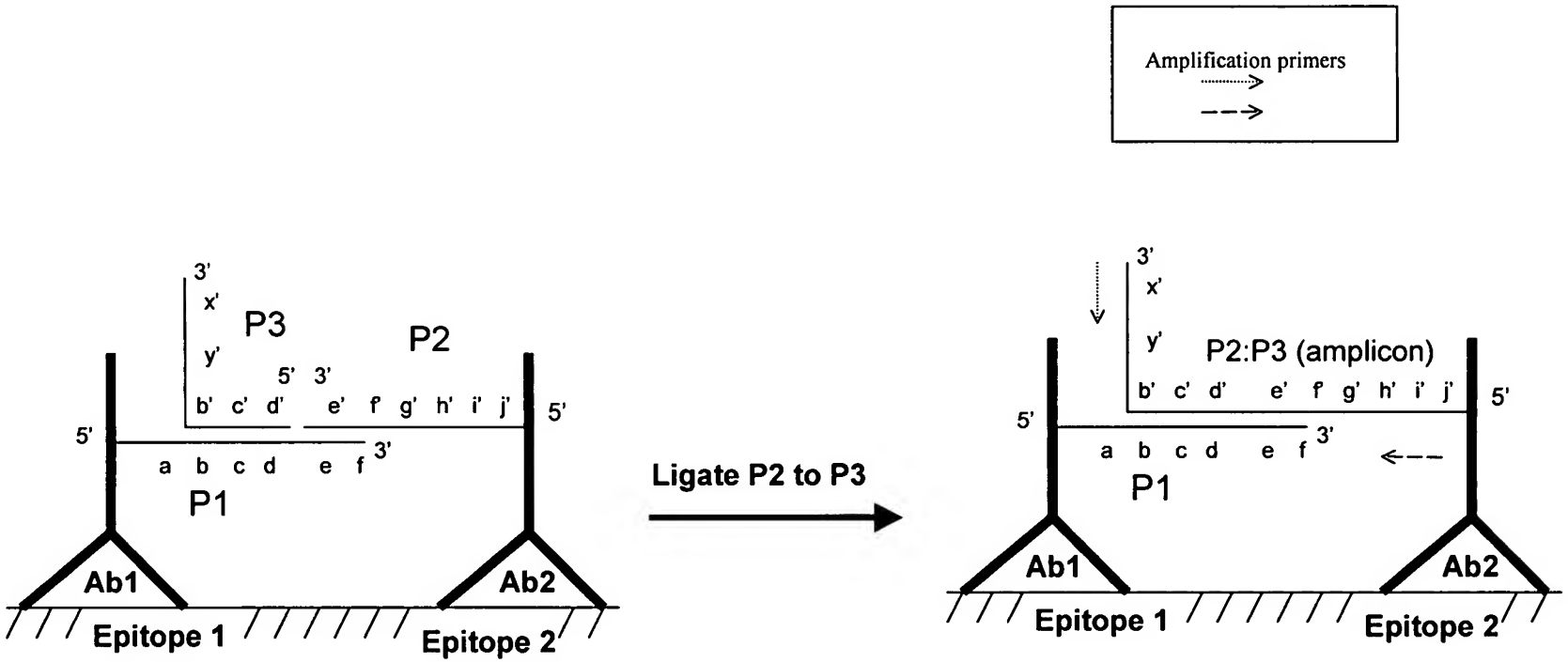


FIGURE 2E
Use of two hybridized probes in opposite sequence orientation to ligate a third probe

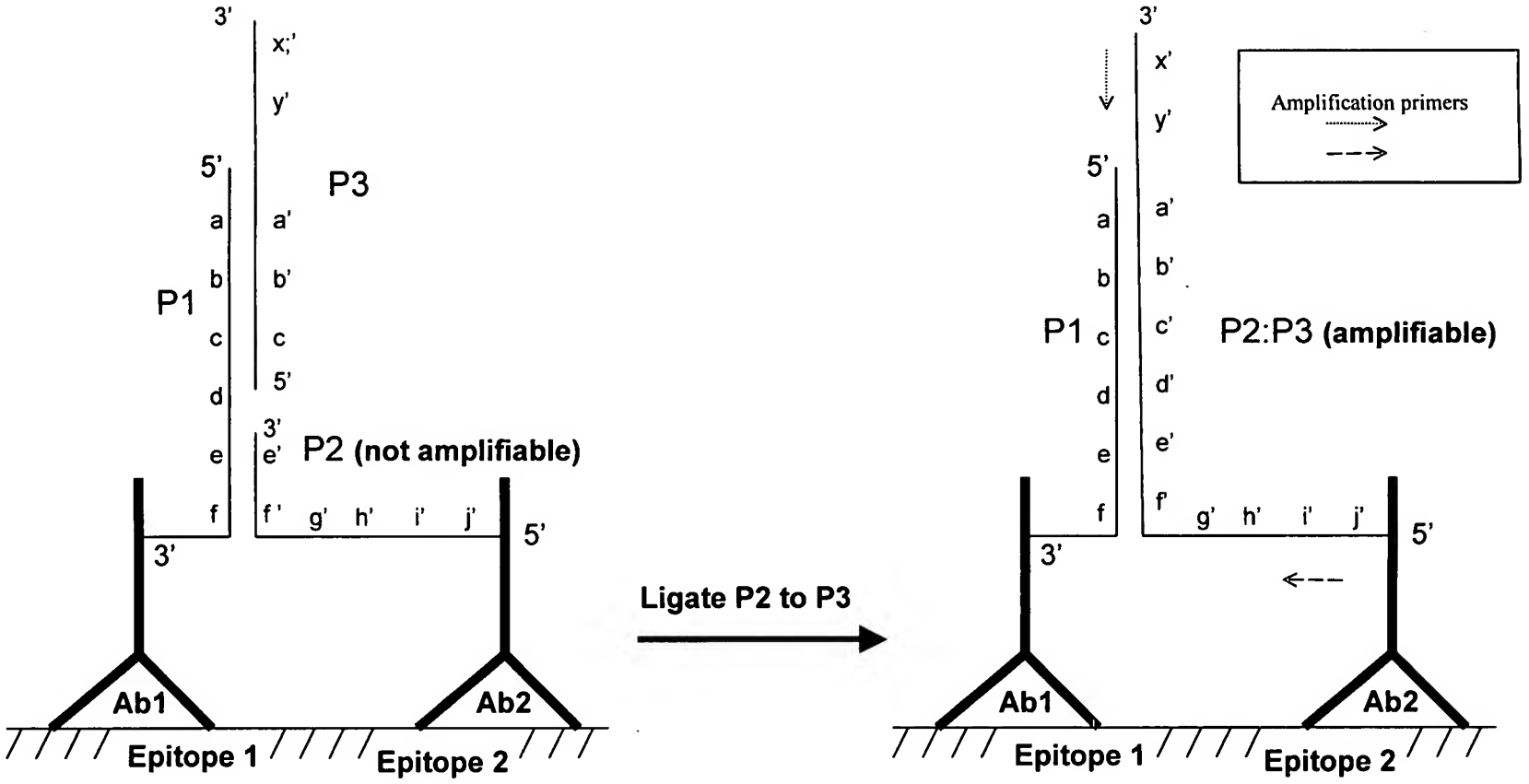


FIGURE 3A
Single-tether oligonucleotide

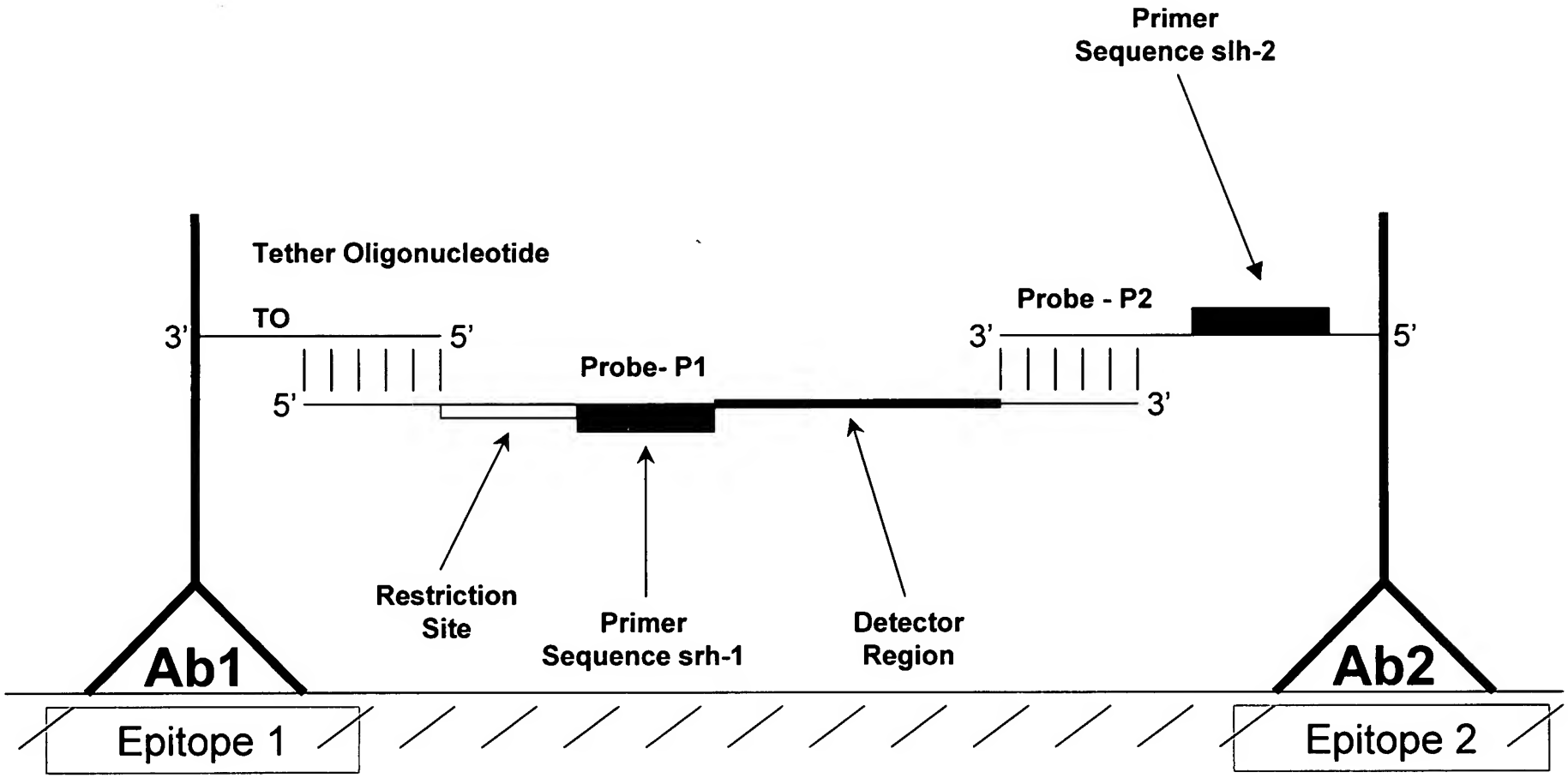


FIGURE 3B
Single-tether oligonucleotide: extension and displacement

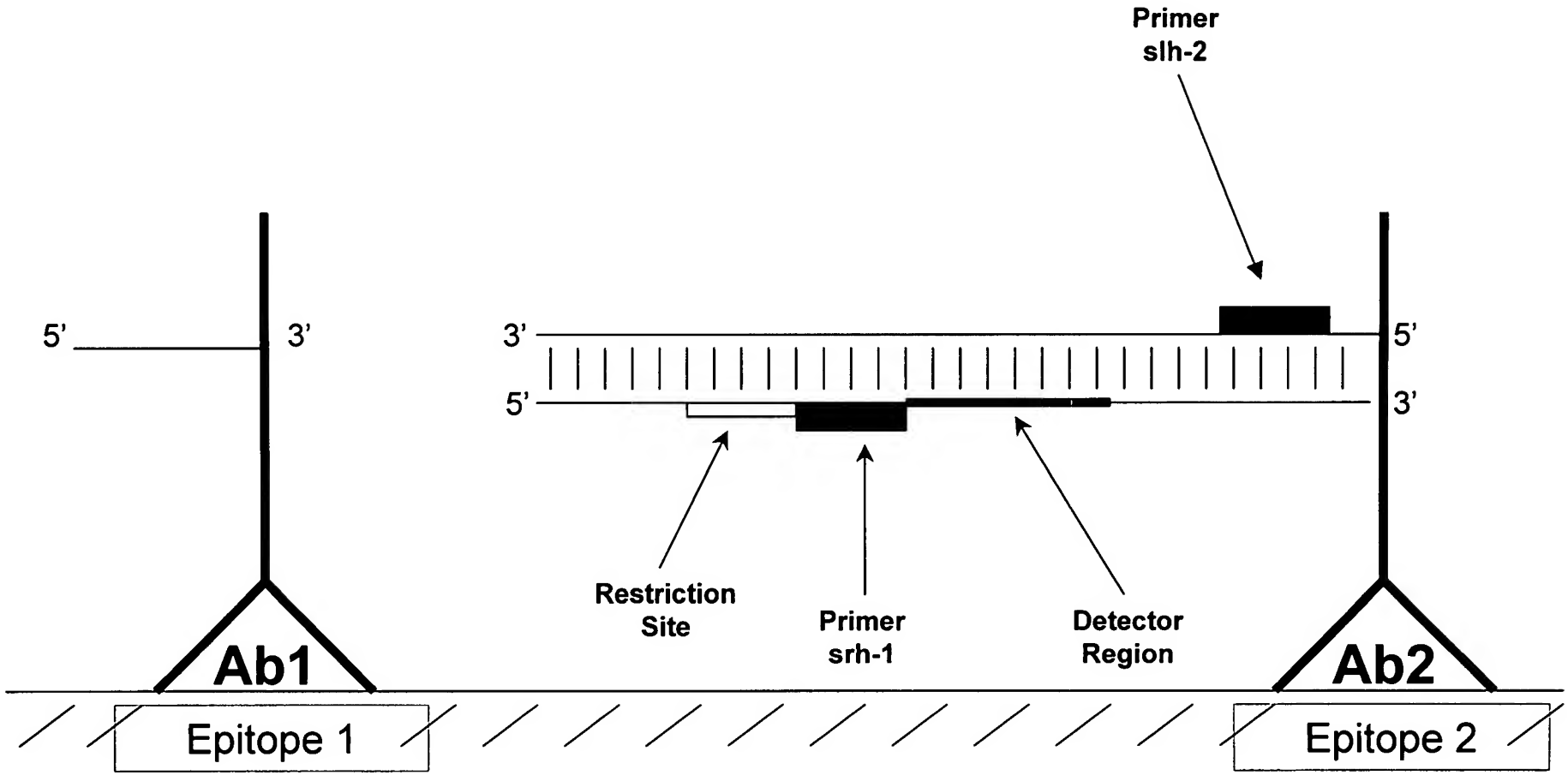


FIGURE 3C
Nicking, extension, displacement and capture

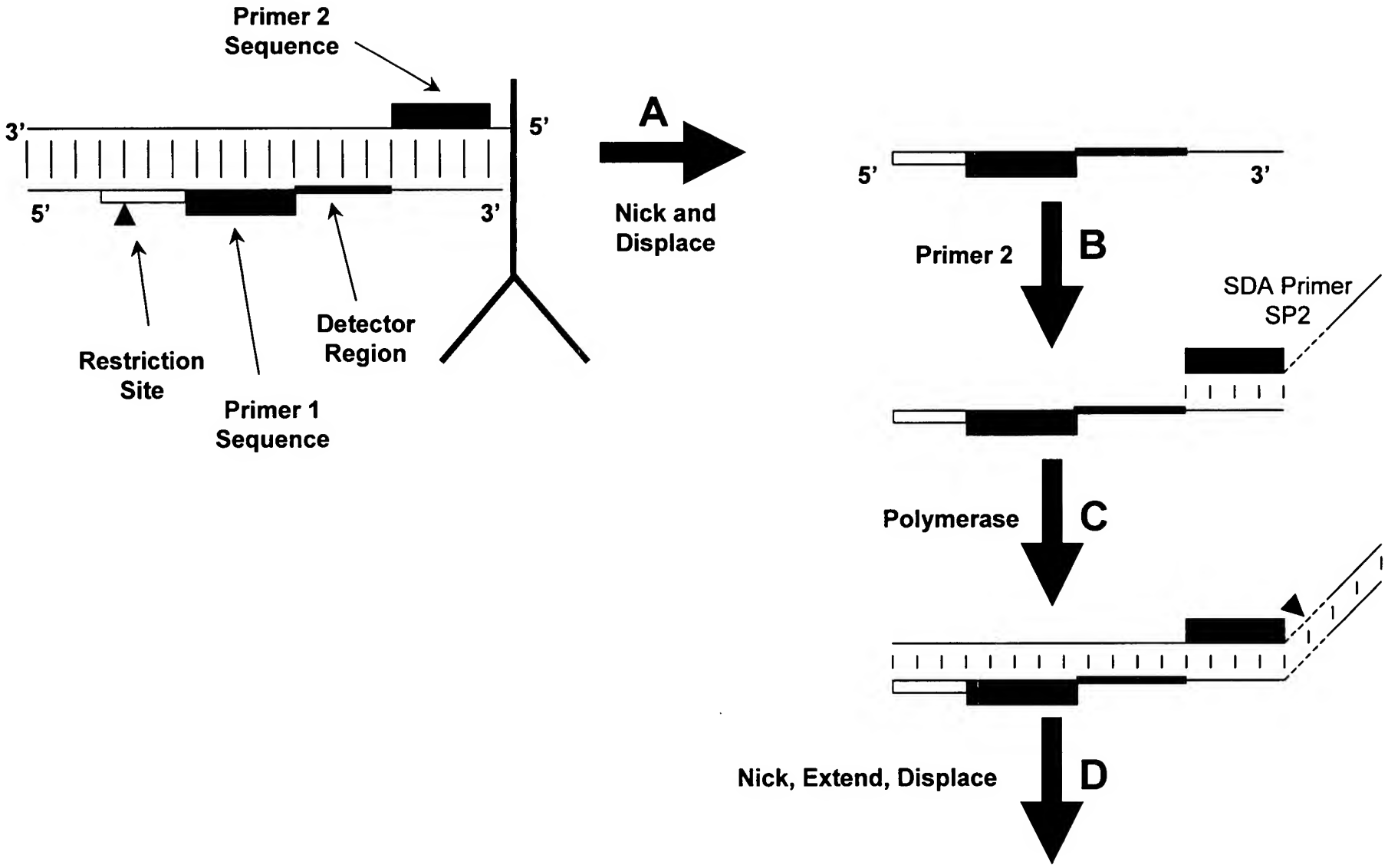


FIGURE 3D
Nicking, extension, displacement and capture (cont.)

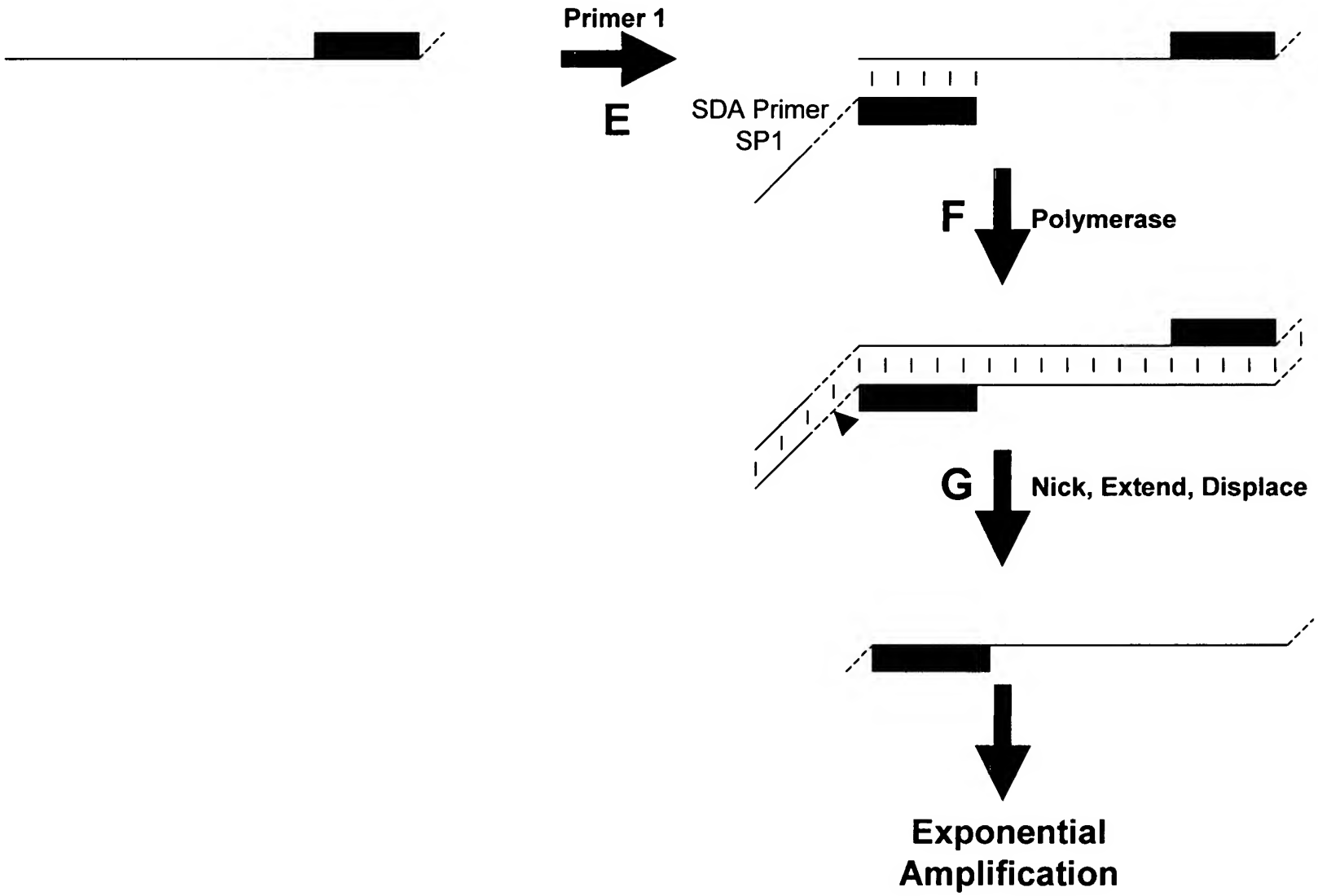


FIGURE 3E
Splint probes (3'/3' configuration)

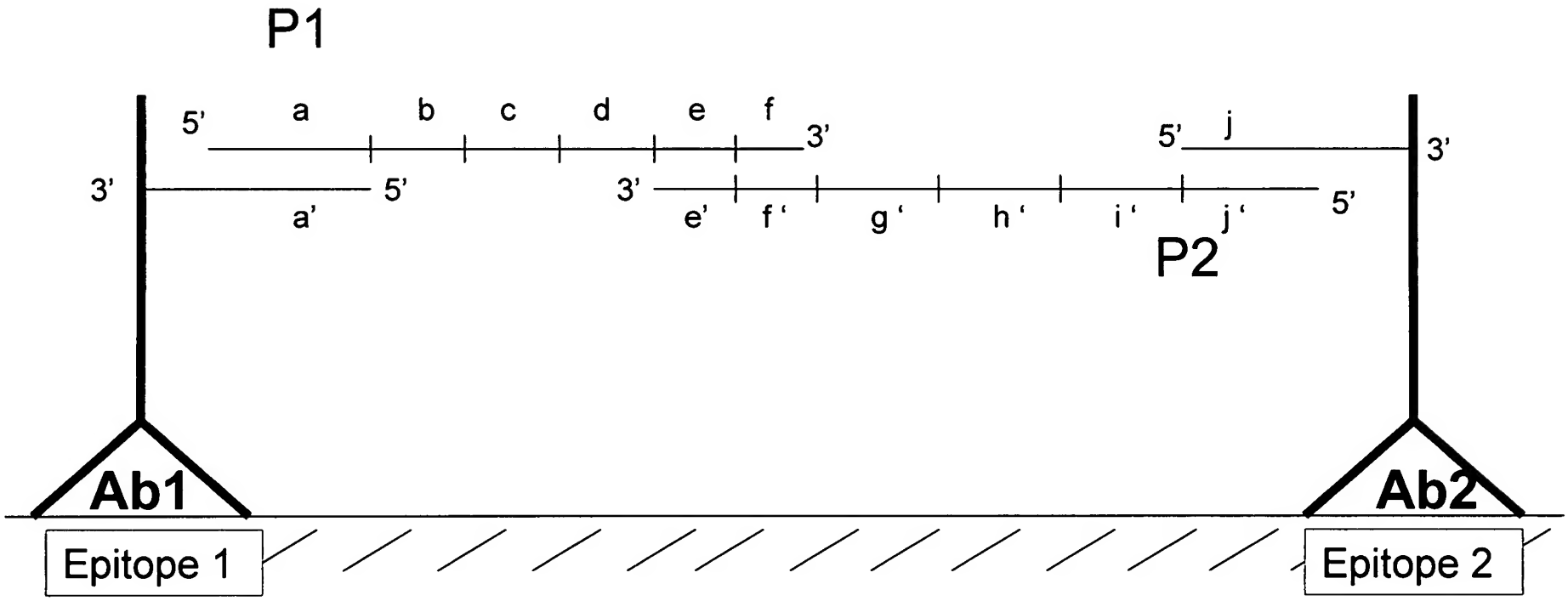


FIGURE 3F
Extension / displacement of splint probes

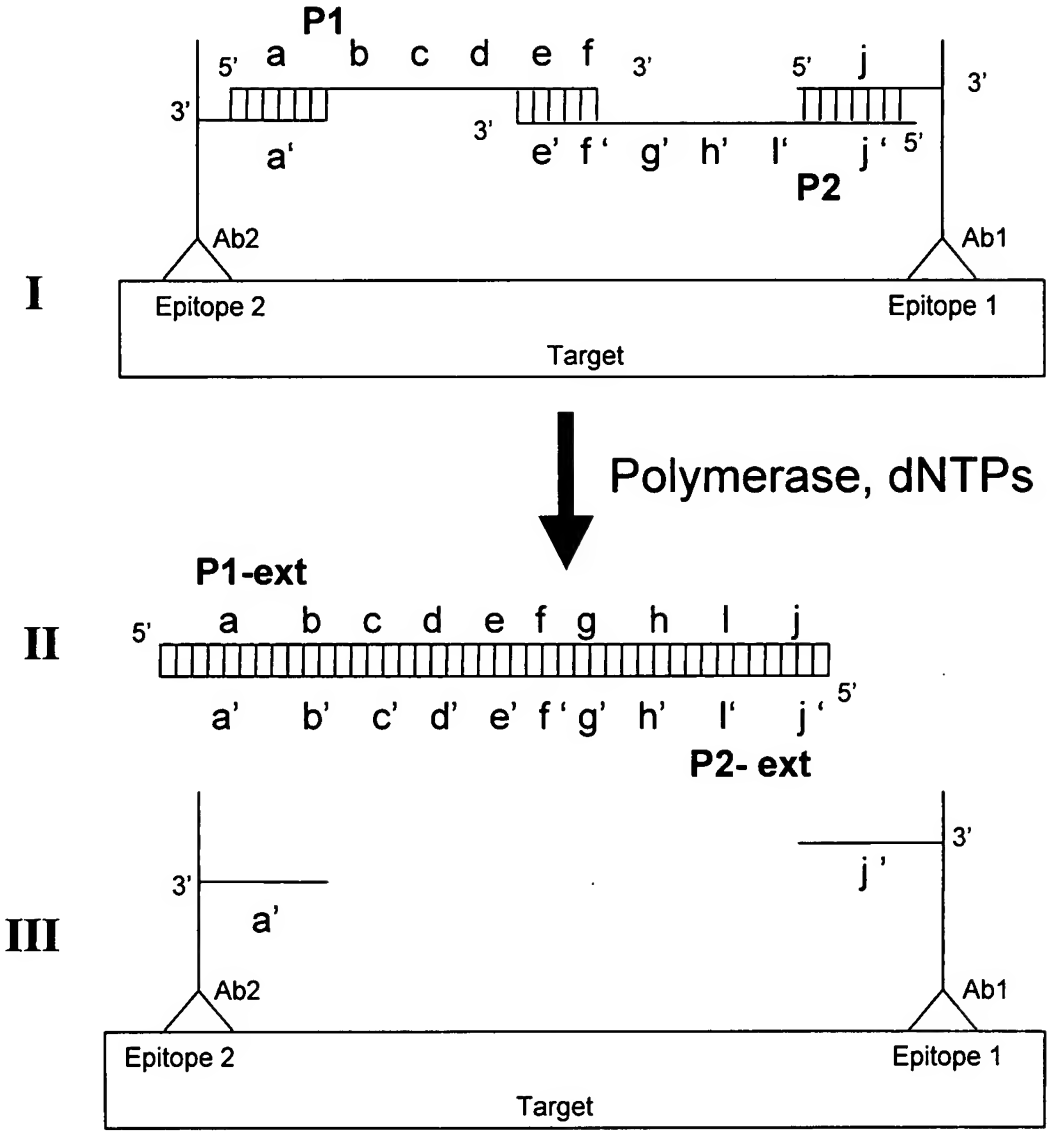


FIGURE 3G
Target-mediated probe cycling

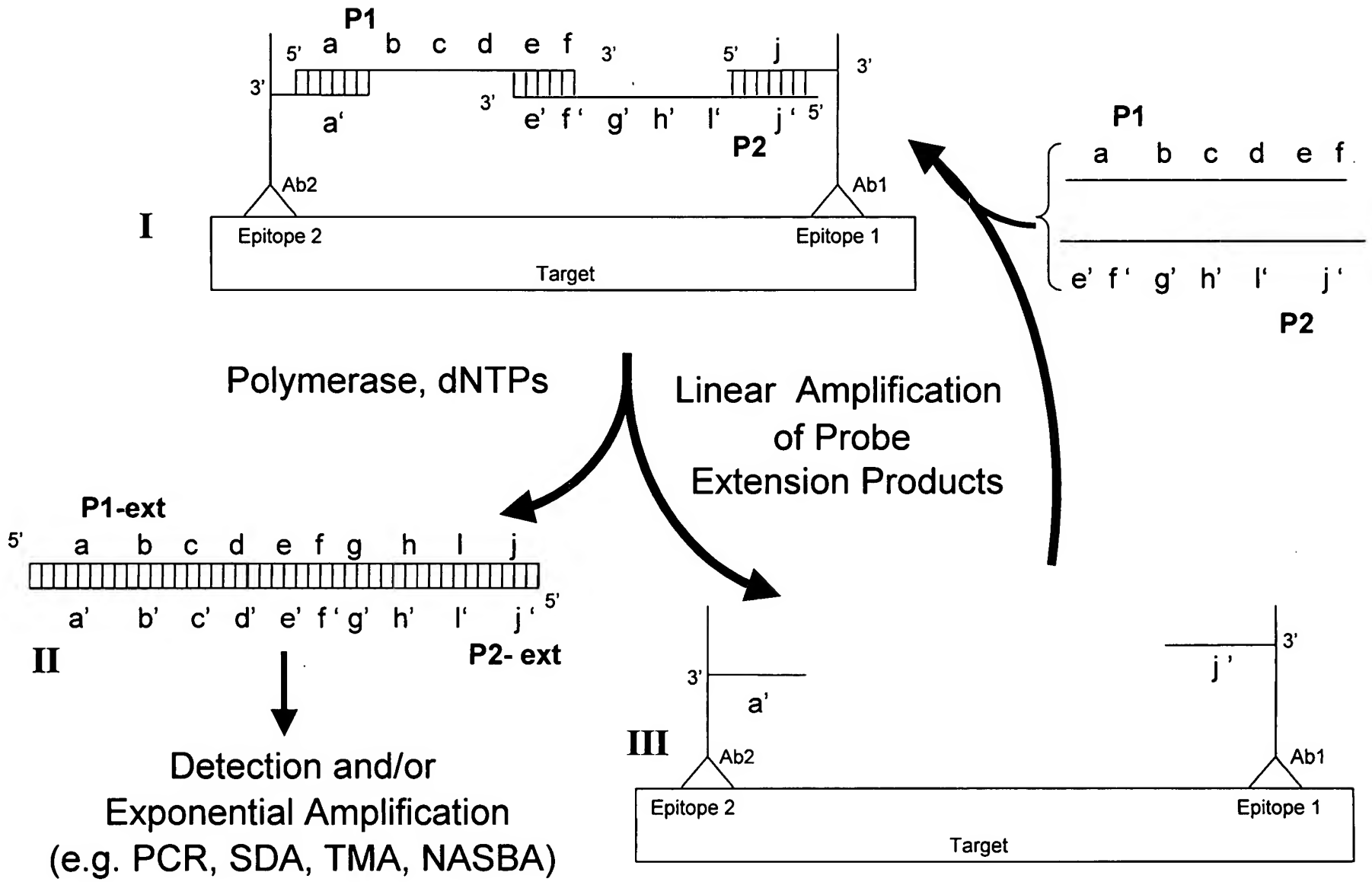


FIGURE 3H
Splint probes (5'/3' configuration)

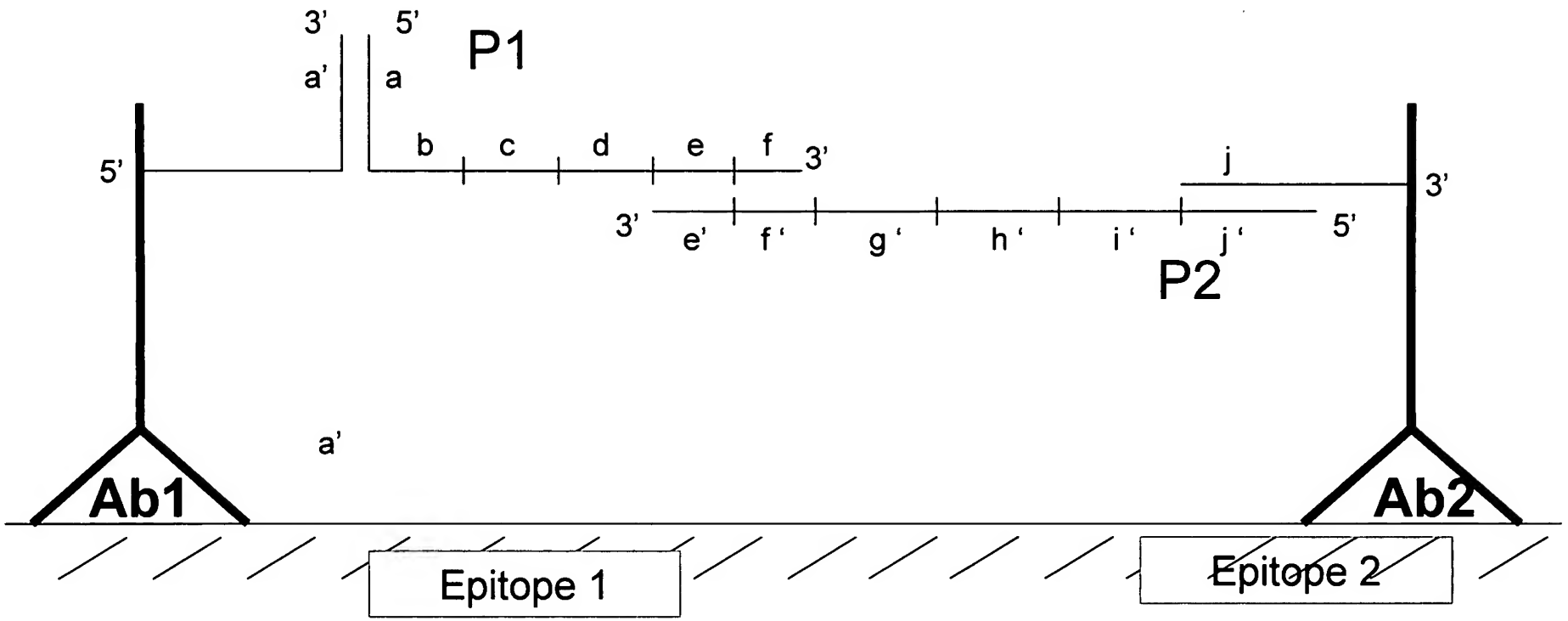


FIGURE 3I
Splint probes (5'/5' configuration)

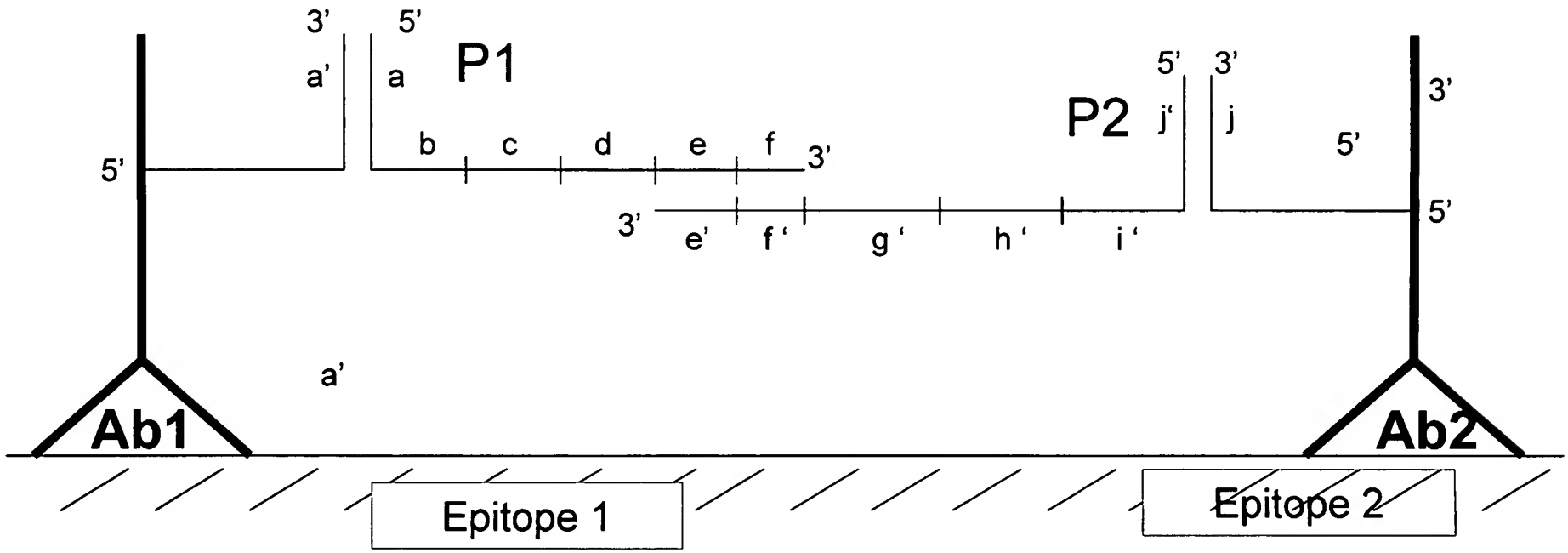


FIGURE 3J
Splint probes (3'/3' configuration)

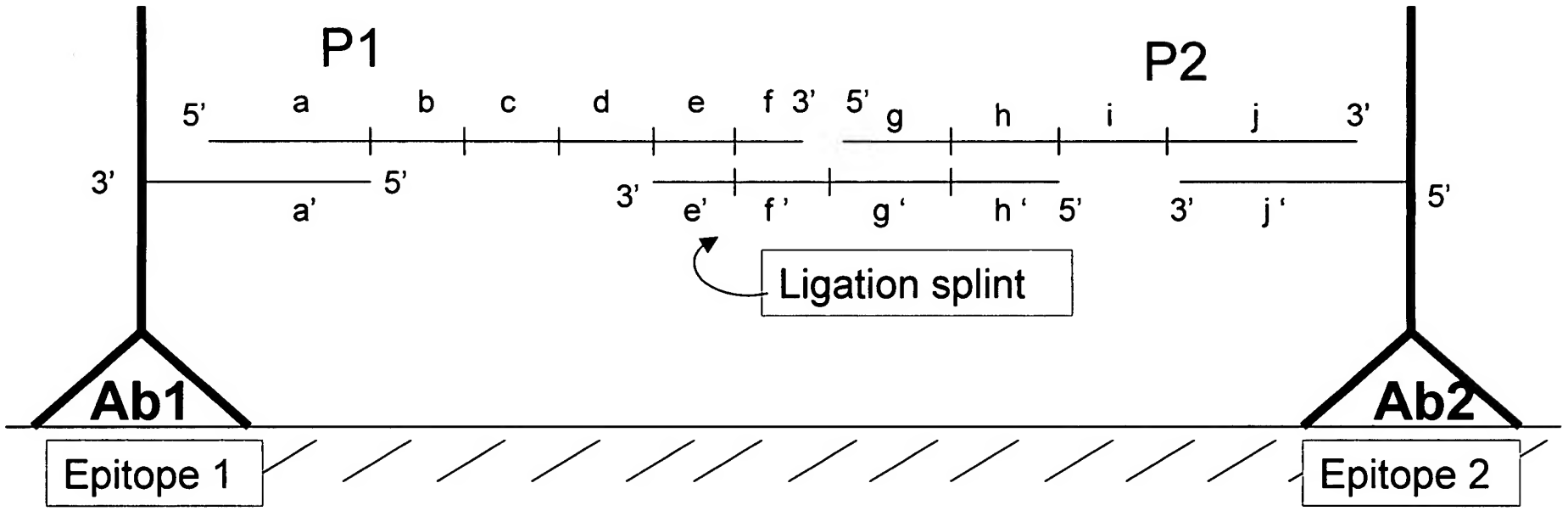


FIGURE 3K
Splint probes (3'/3' configuration)

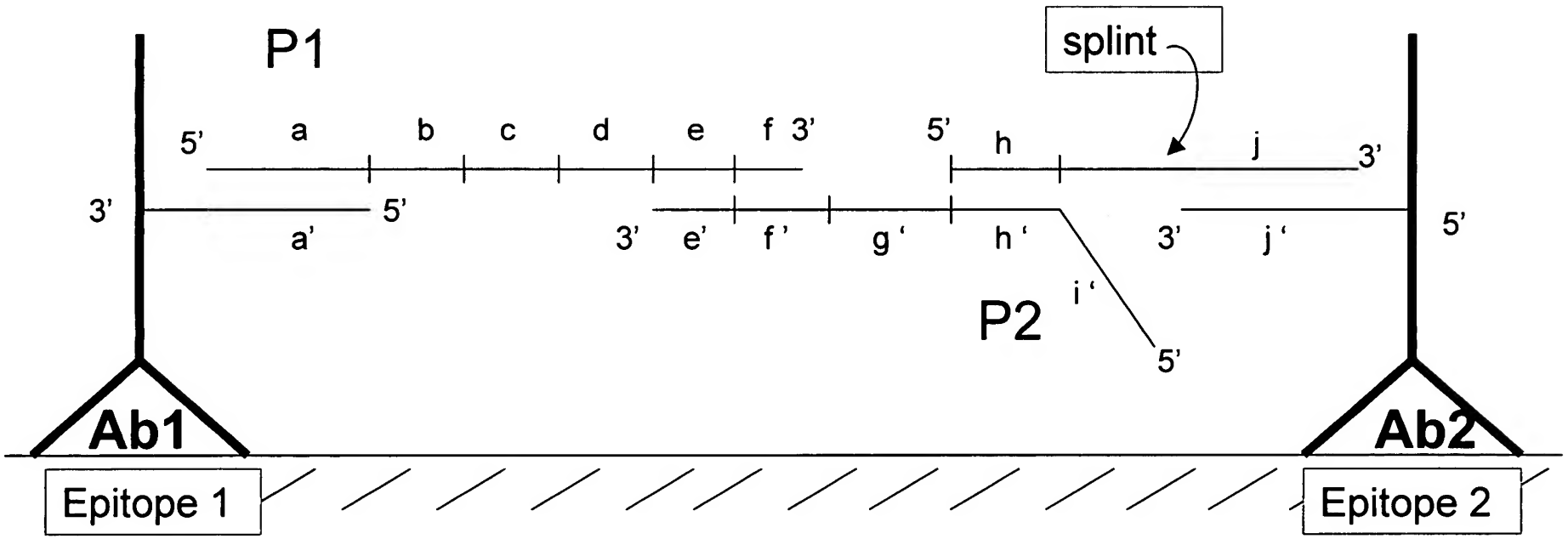


FIGURE 3L
Extension / displacement of splint probes (cont.)

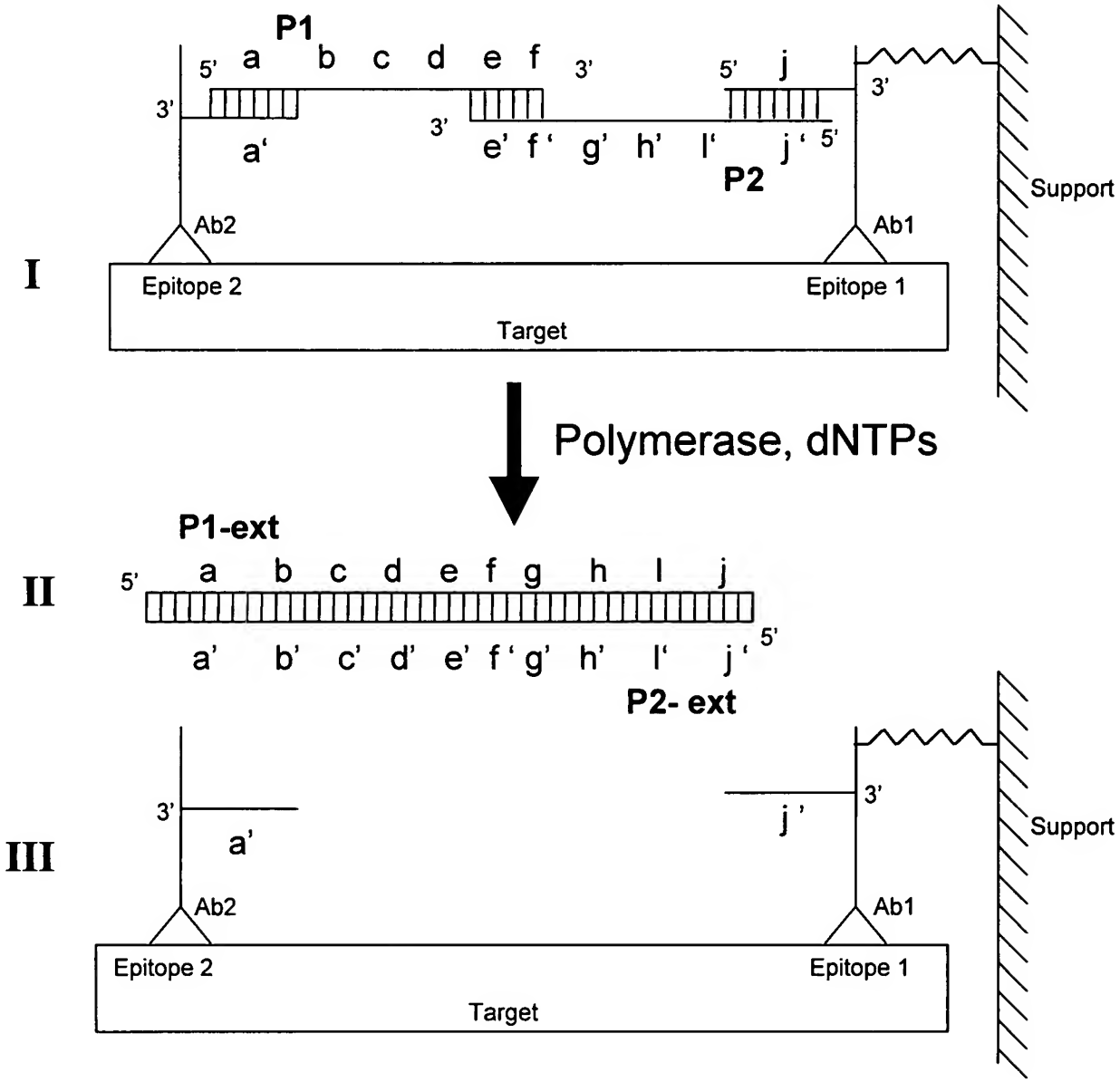


FIGURE 4A
Simple, competitive blocker oligonucleotide

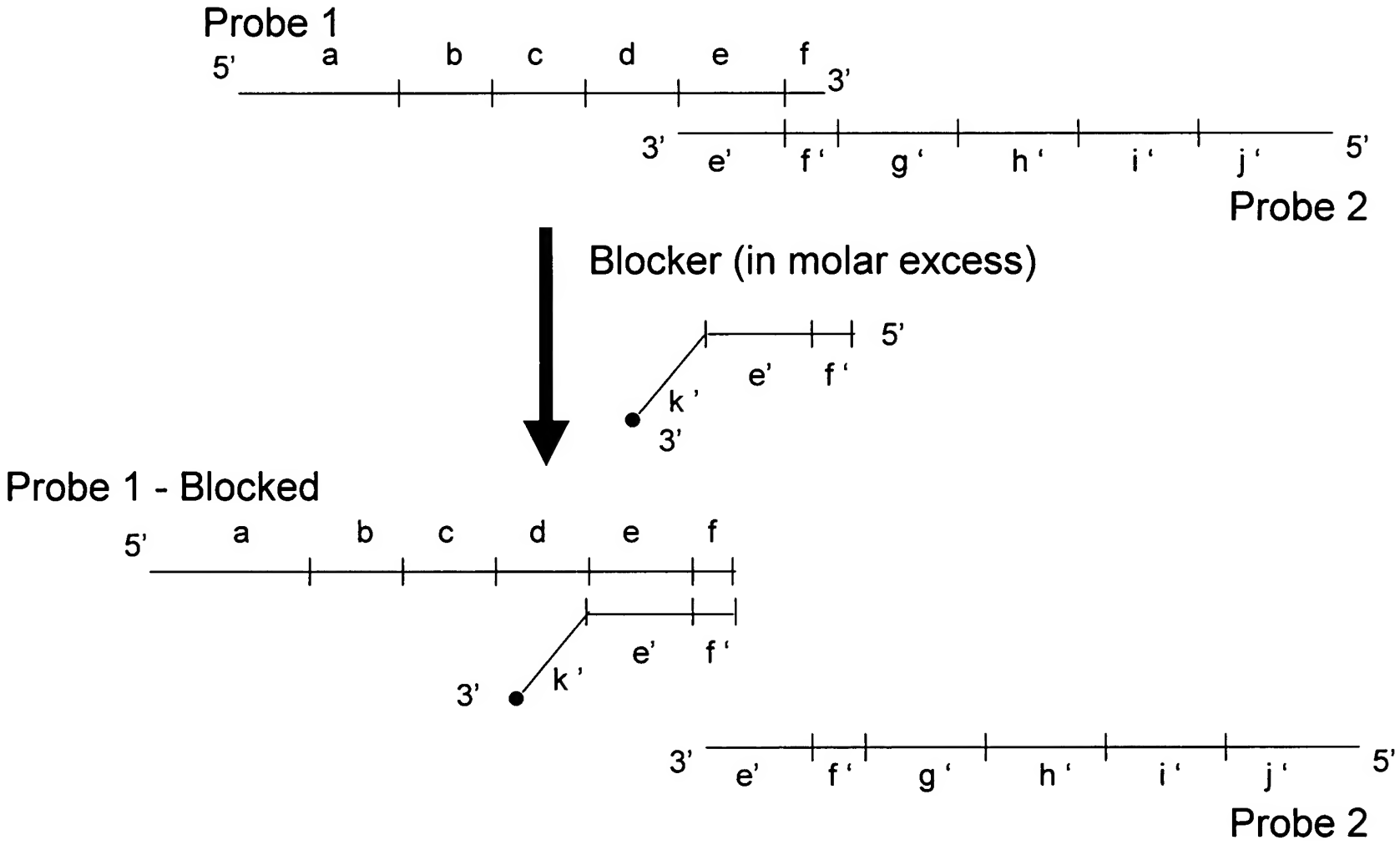


FIGURE 4B
Recessed, competitive blocker oligonucleotide

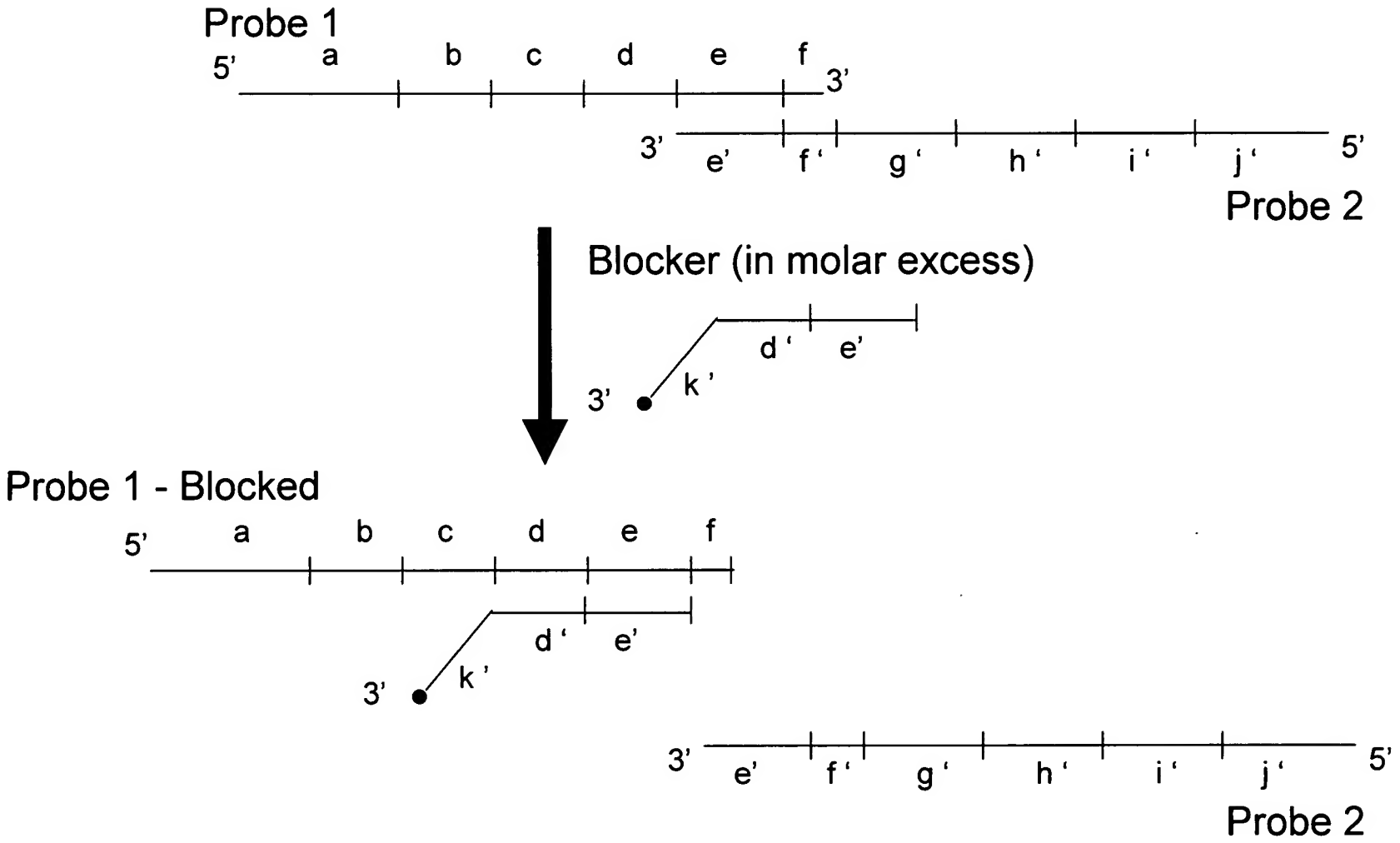


FIGURE 4C
Disabling blocker oligonucleotide

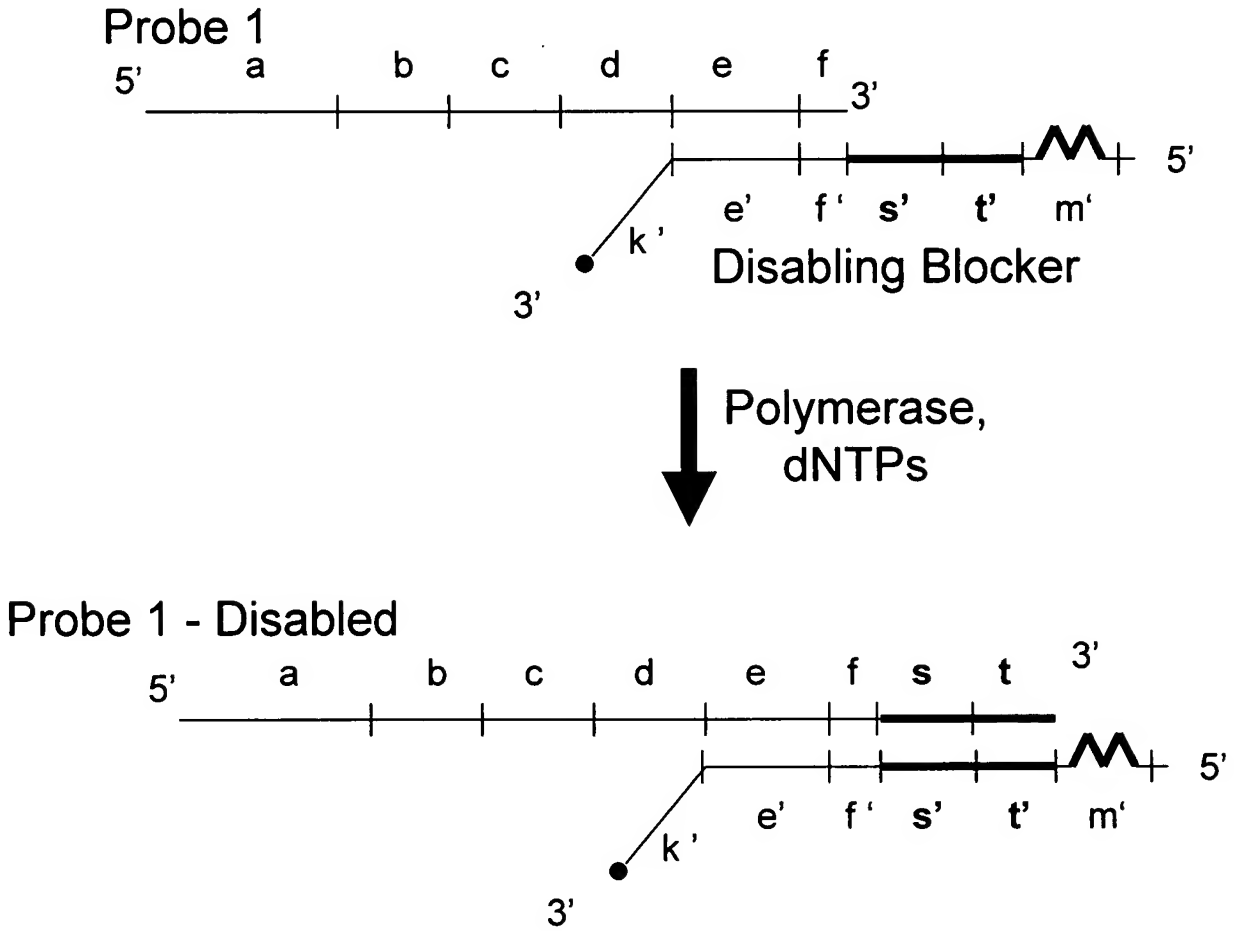


FIGURE 4D
Displaceable blocker oligonucleotide

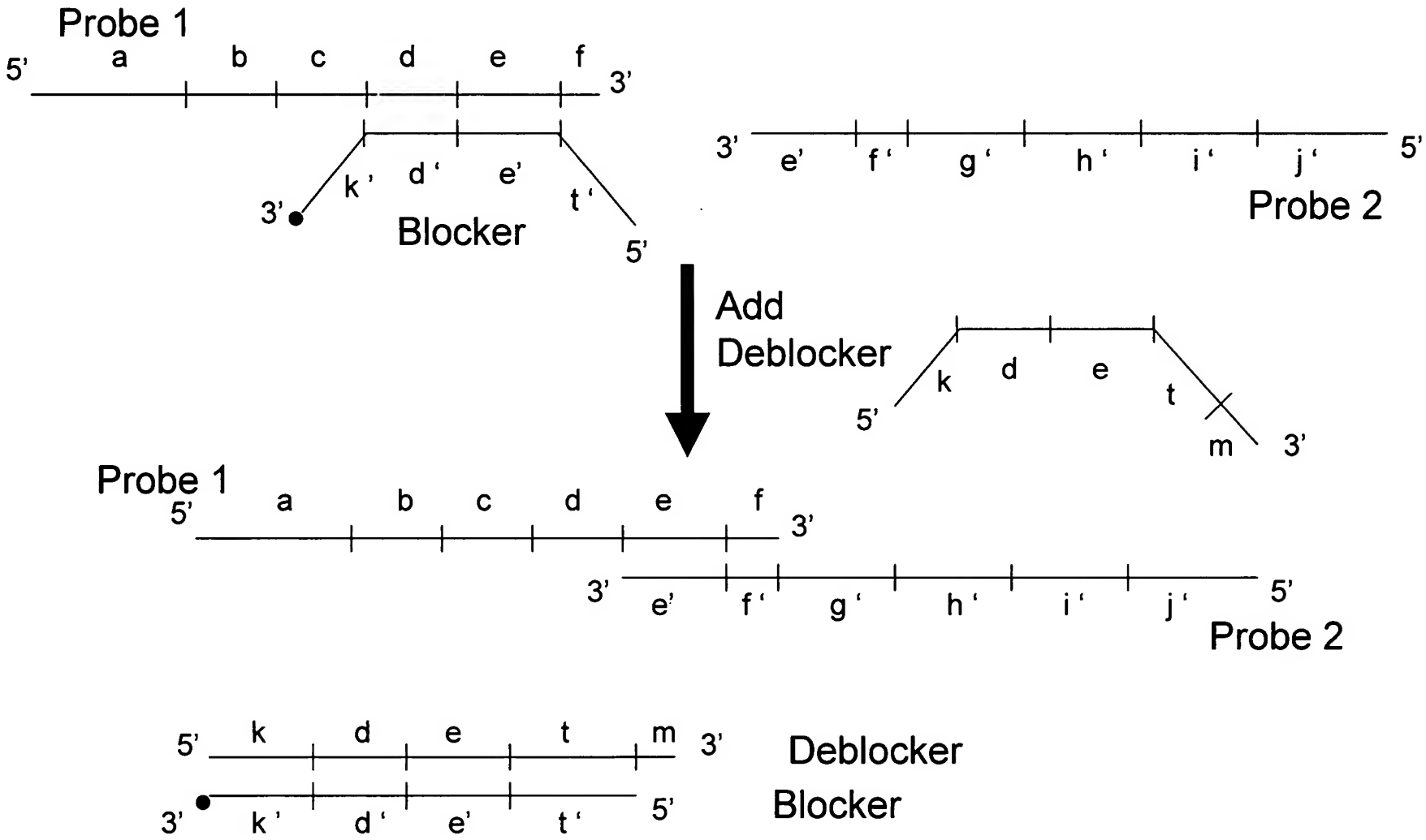


FIGURE 4E
Self-displacing blocker oligonucleotide

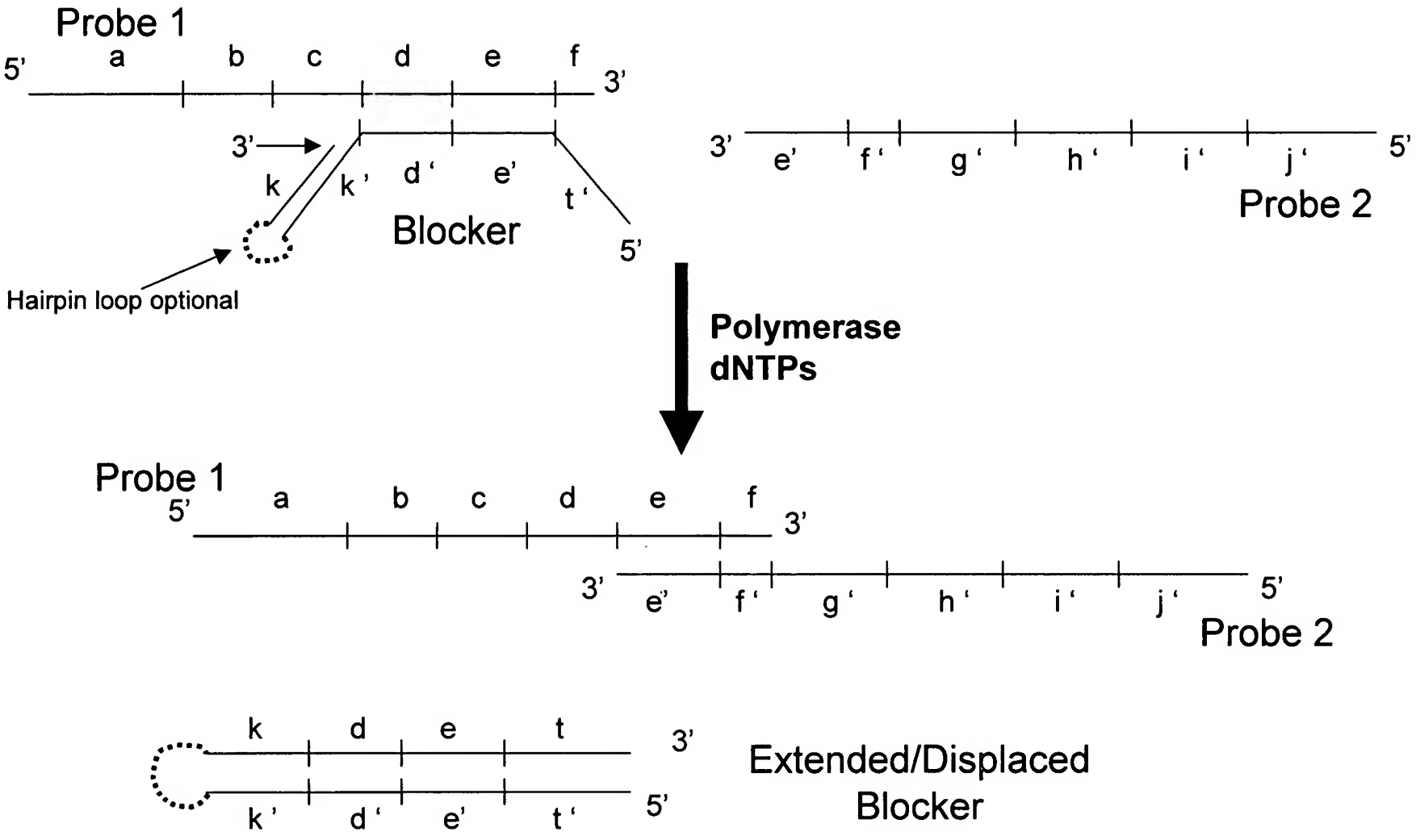


FIGURE 4EE
Use of 3' probe tail to stabilize probe-blocker duplex

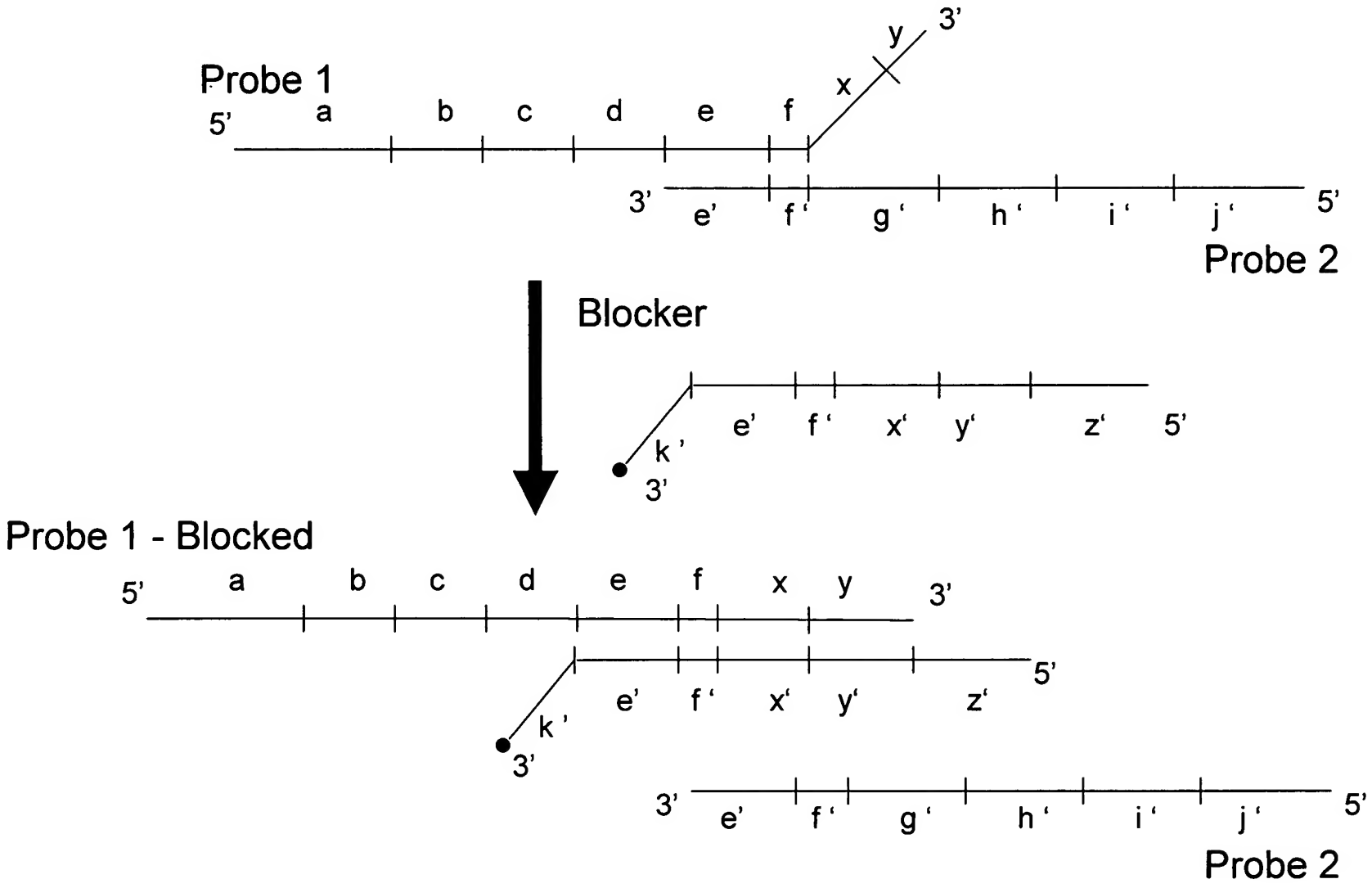


FIGURE 4F
Competitive blocker oligonucleotide in binary immuno-SDA

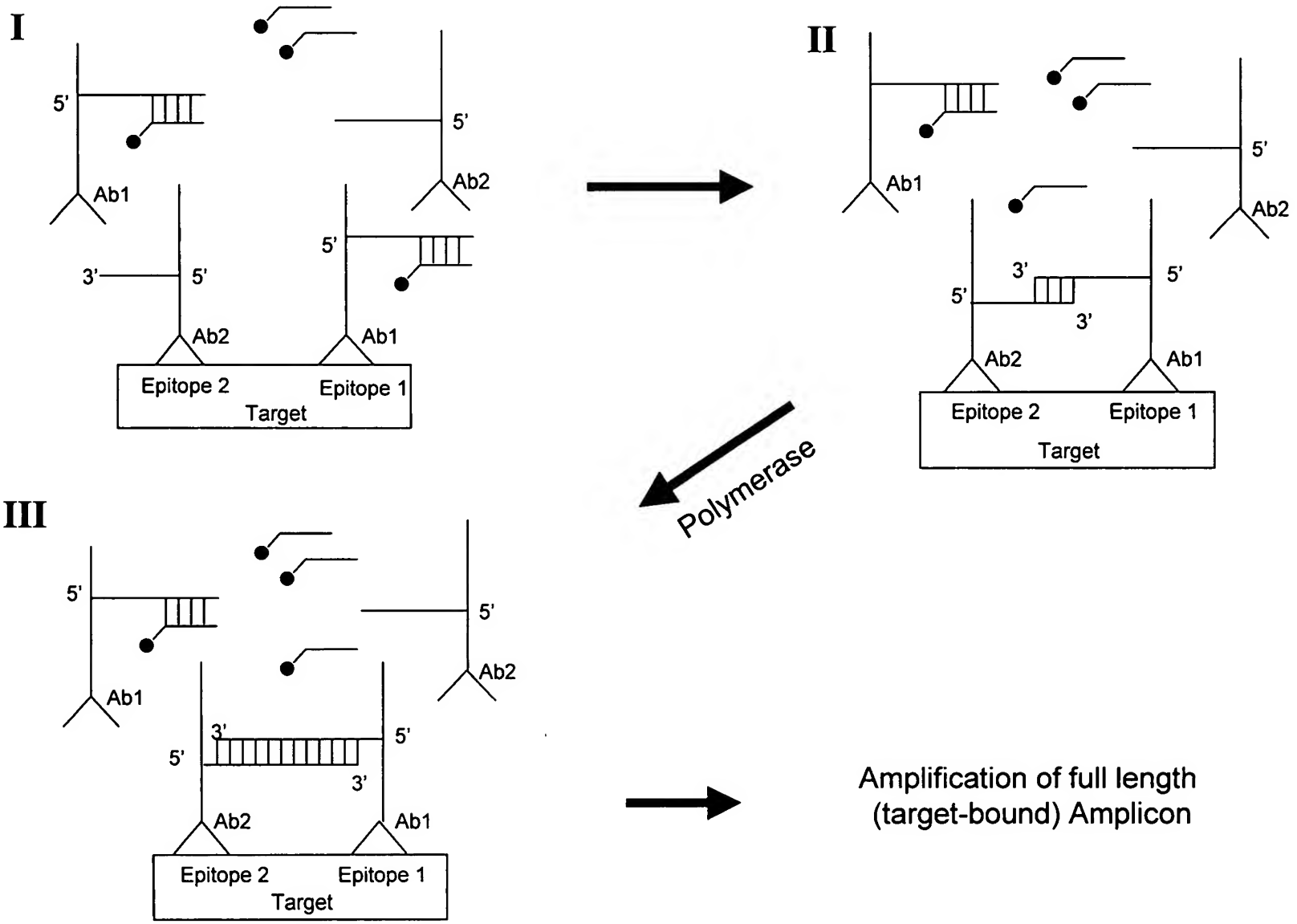


FIGURE 4G
Disabling blocker oligonucleotide in binary immuno-SDA

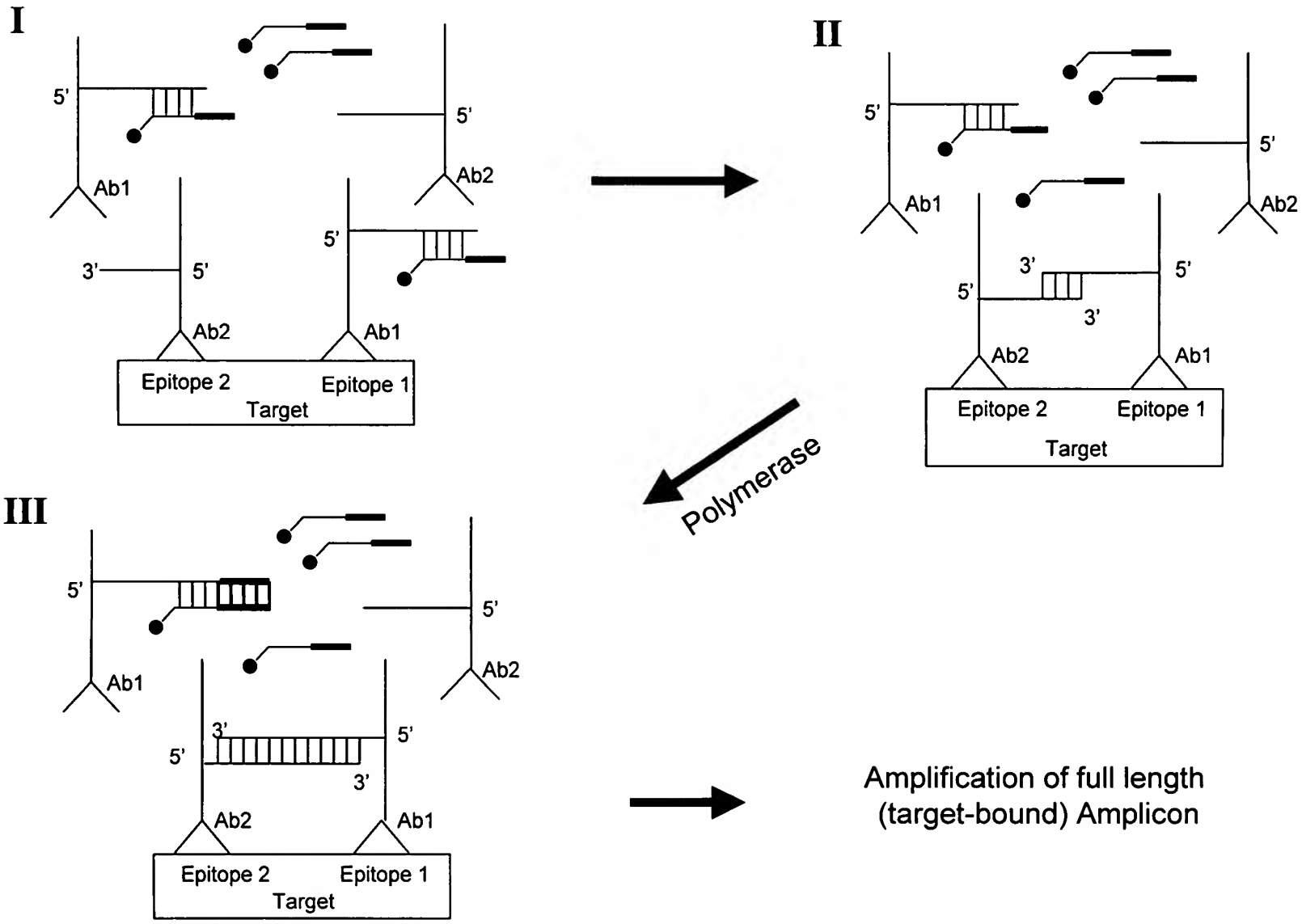


FIGURE 4H
Step-wise blocking in binary immuno-SDA

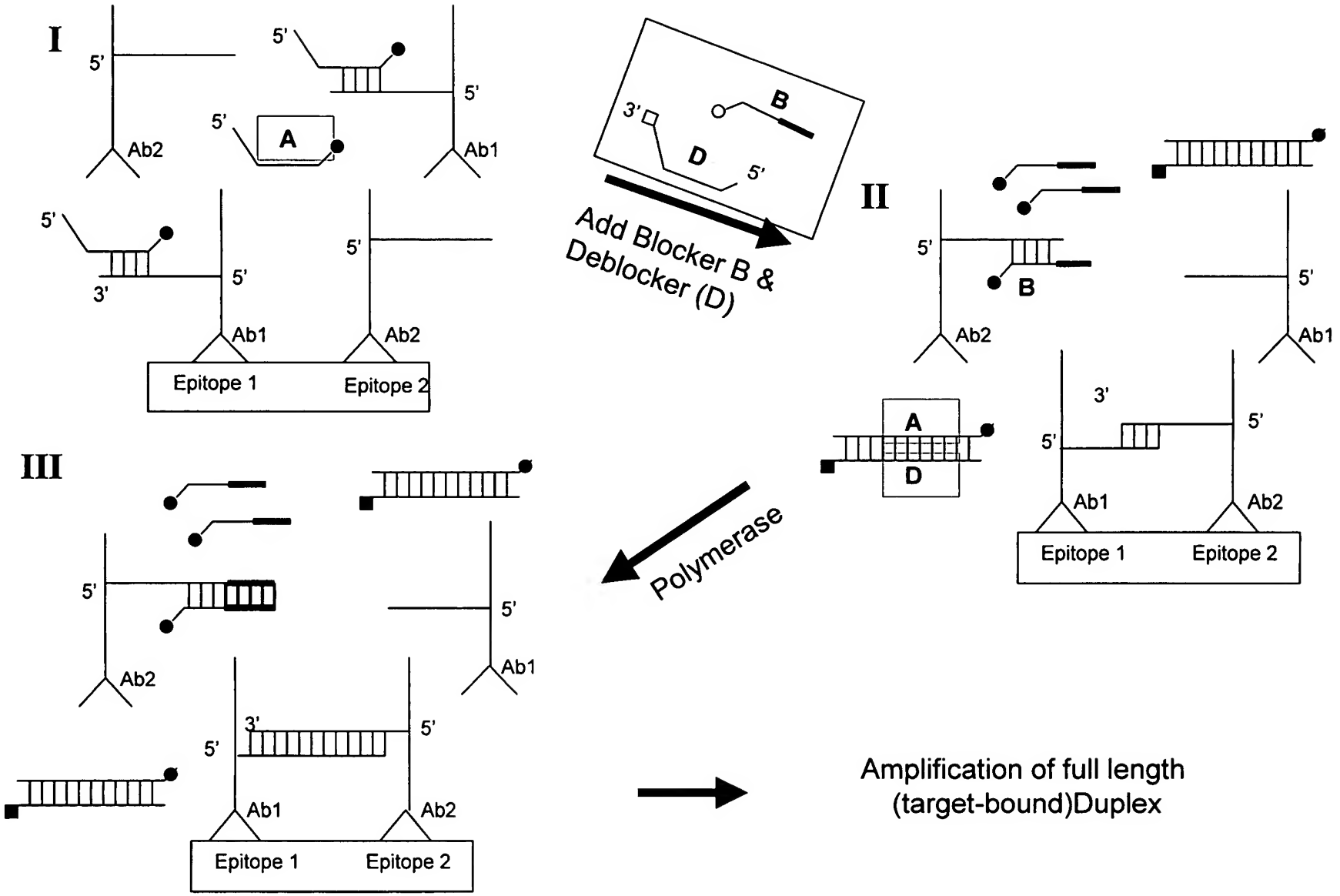


FIGURE 4I

Post-binding addition of blockers in binary immuno-SDA

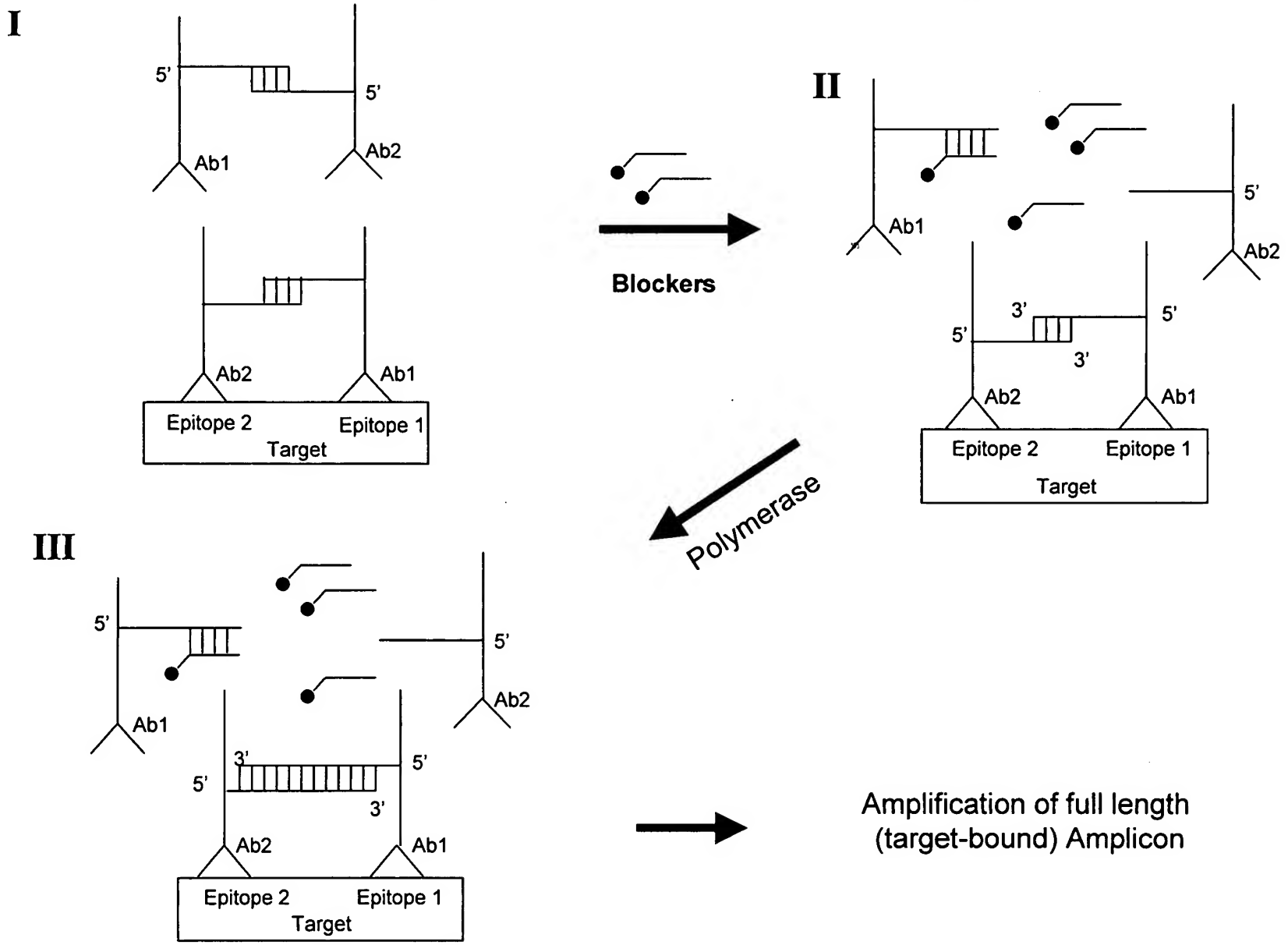


FIGURE 5A
Splint oligonucleotide hybridization

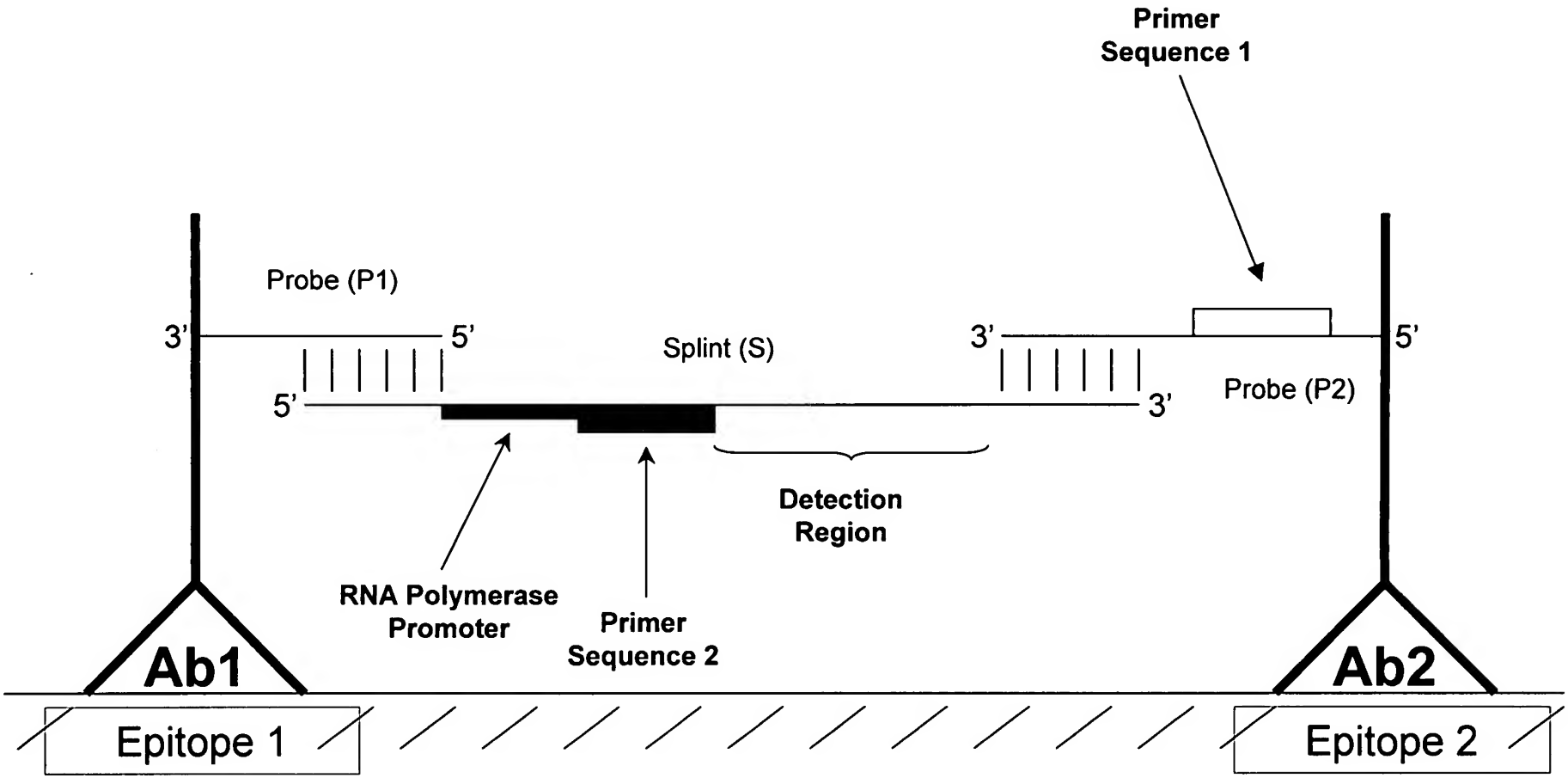


FIGURE 5B
Extension and displacement

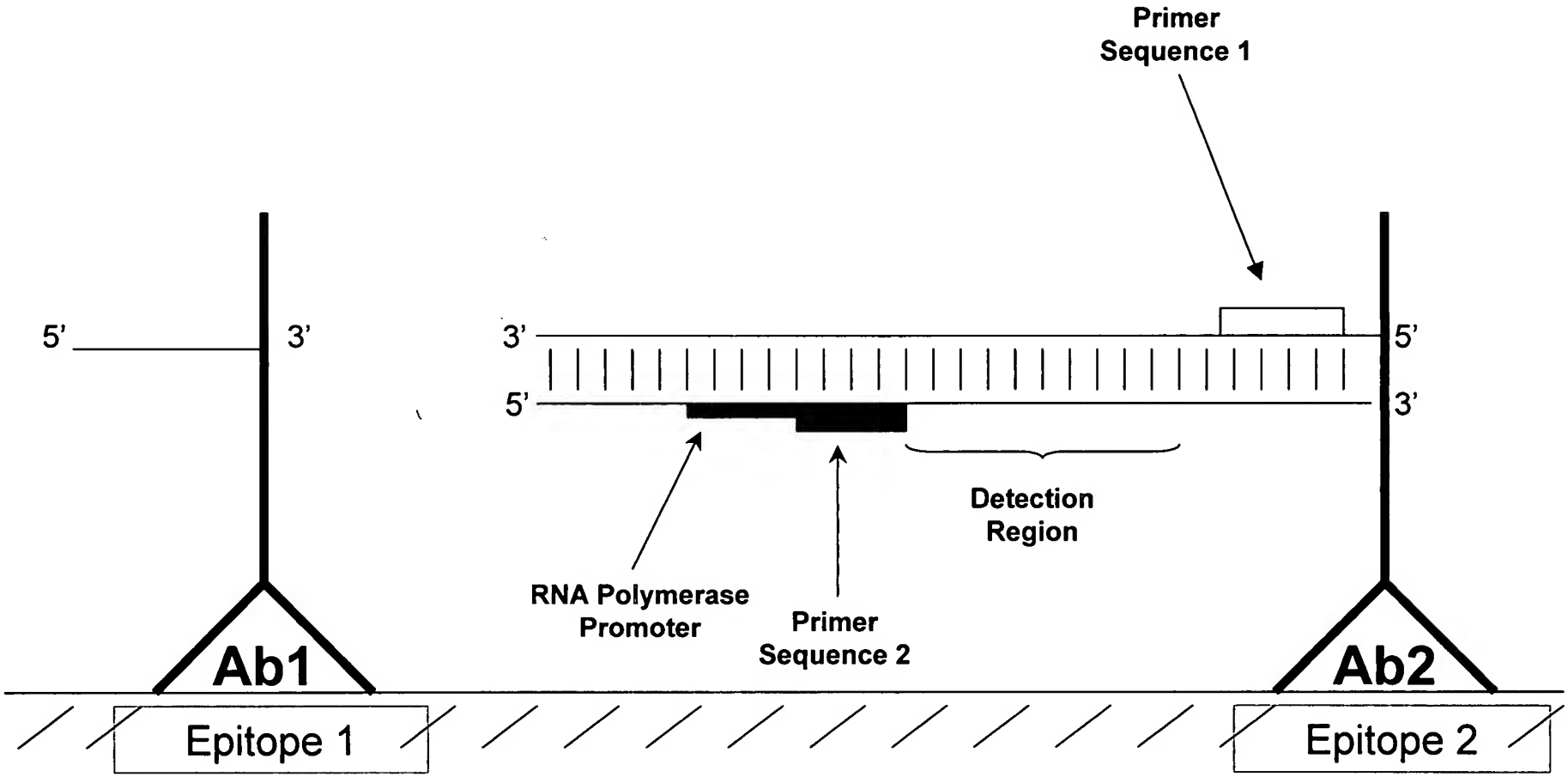


FIGURE 5C
RNA polymerase activity, hybridization and extension

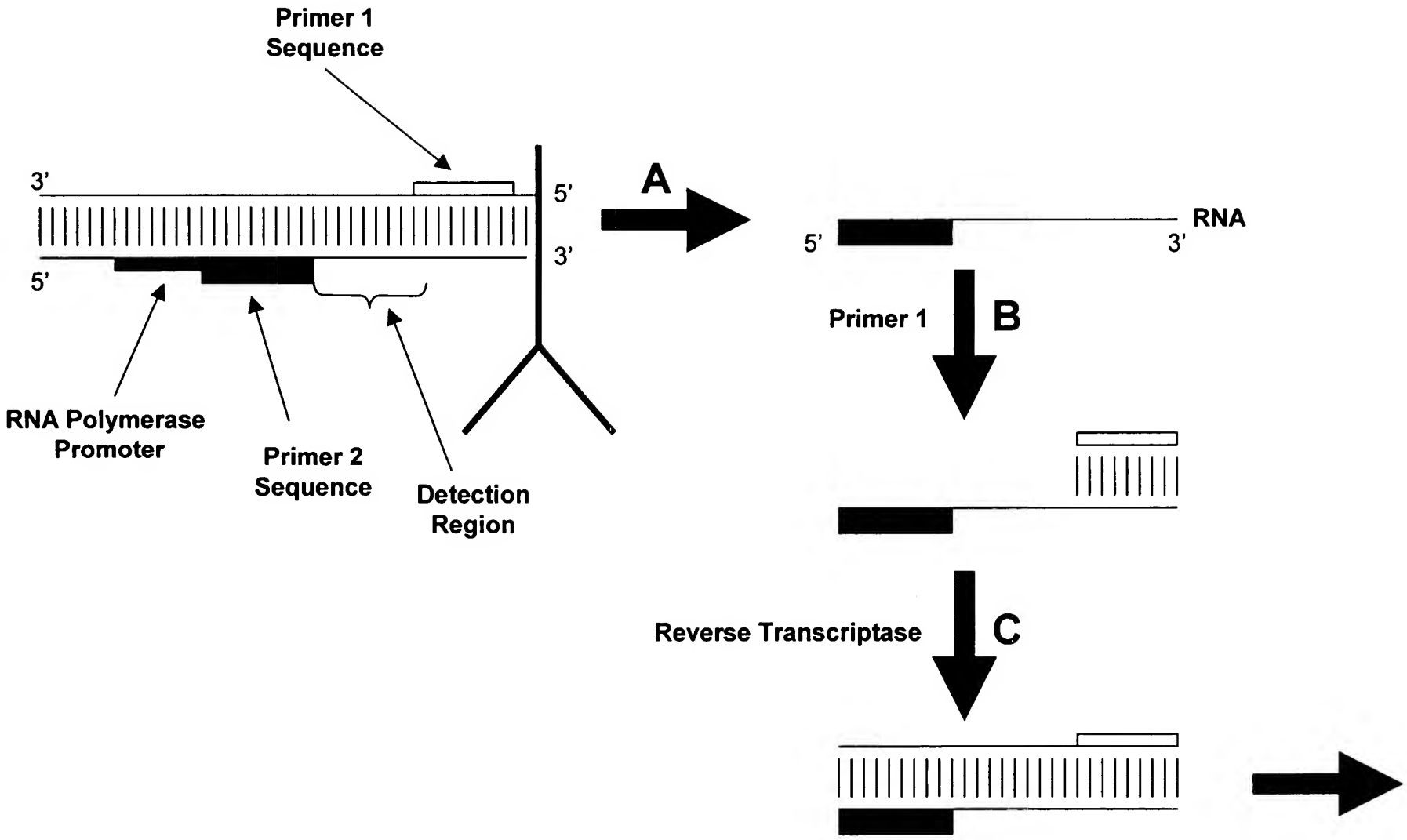


FIGURE 5D
RNase H activity, hybridization and extension

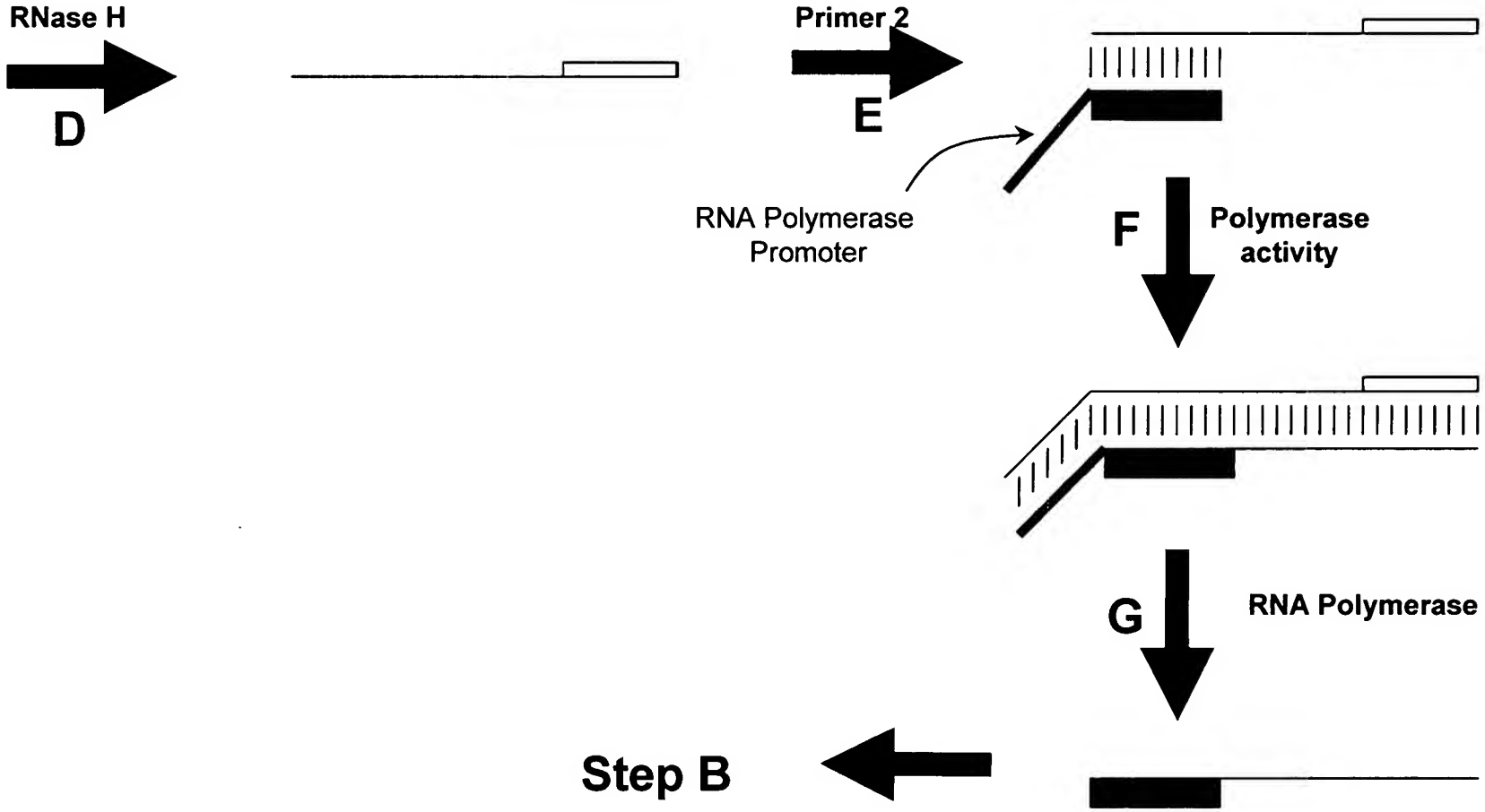


FIGURE 6A
Restriction endonuclease-mediated release

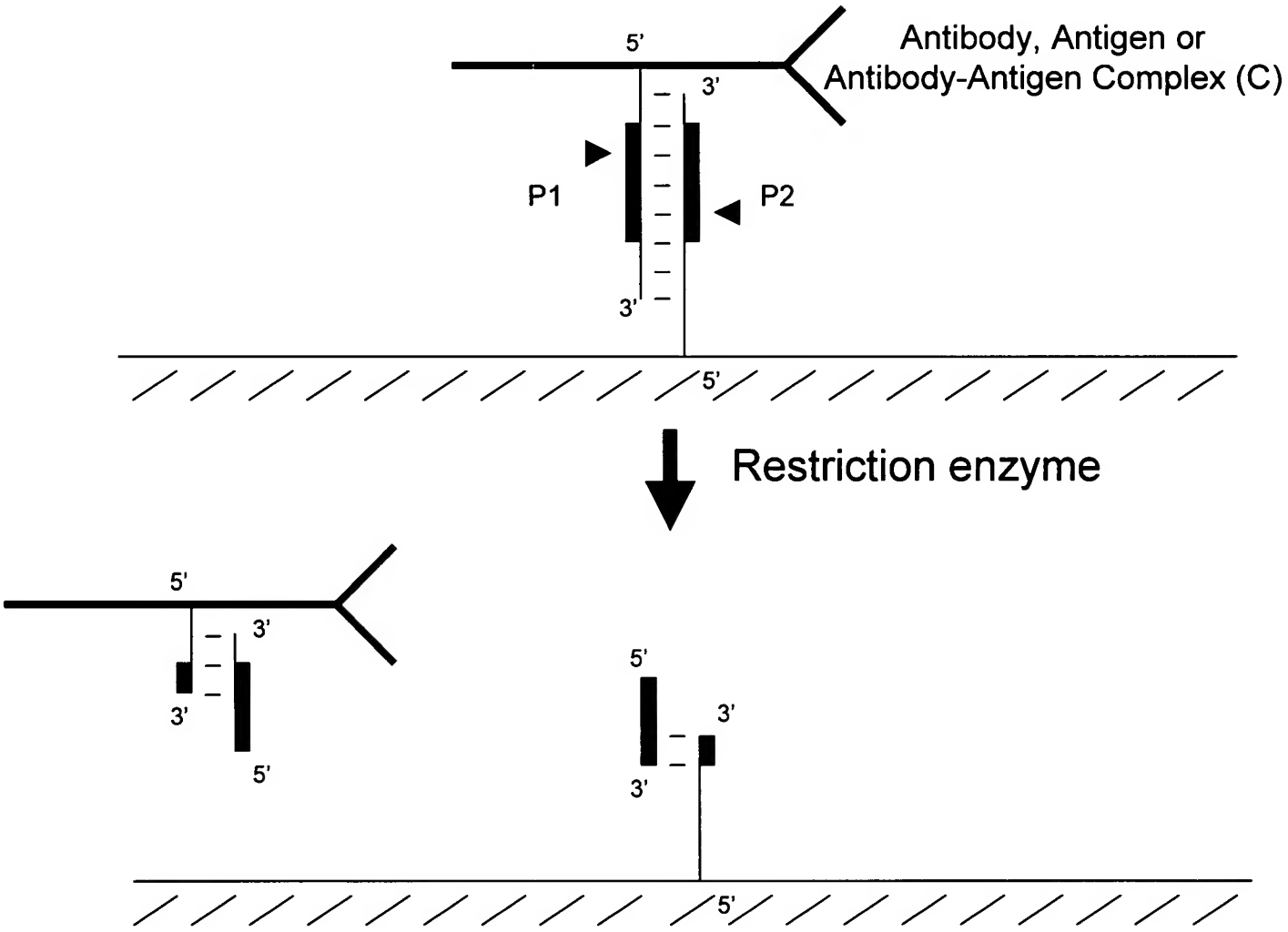


FIGURE 6B
Restriction endonuclease-mediated release

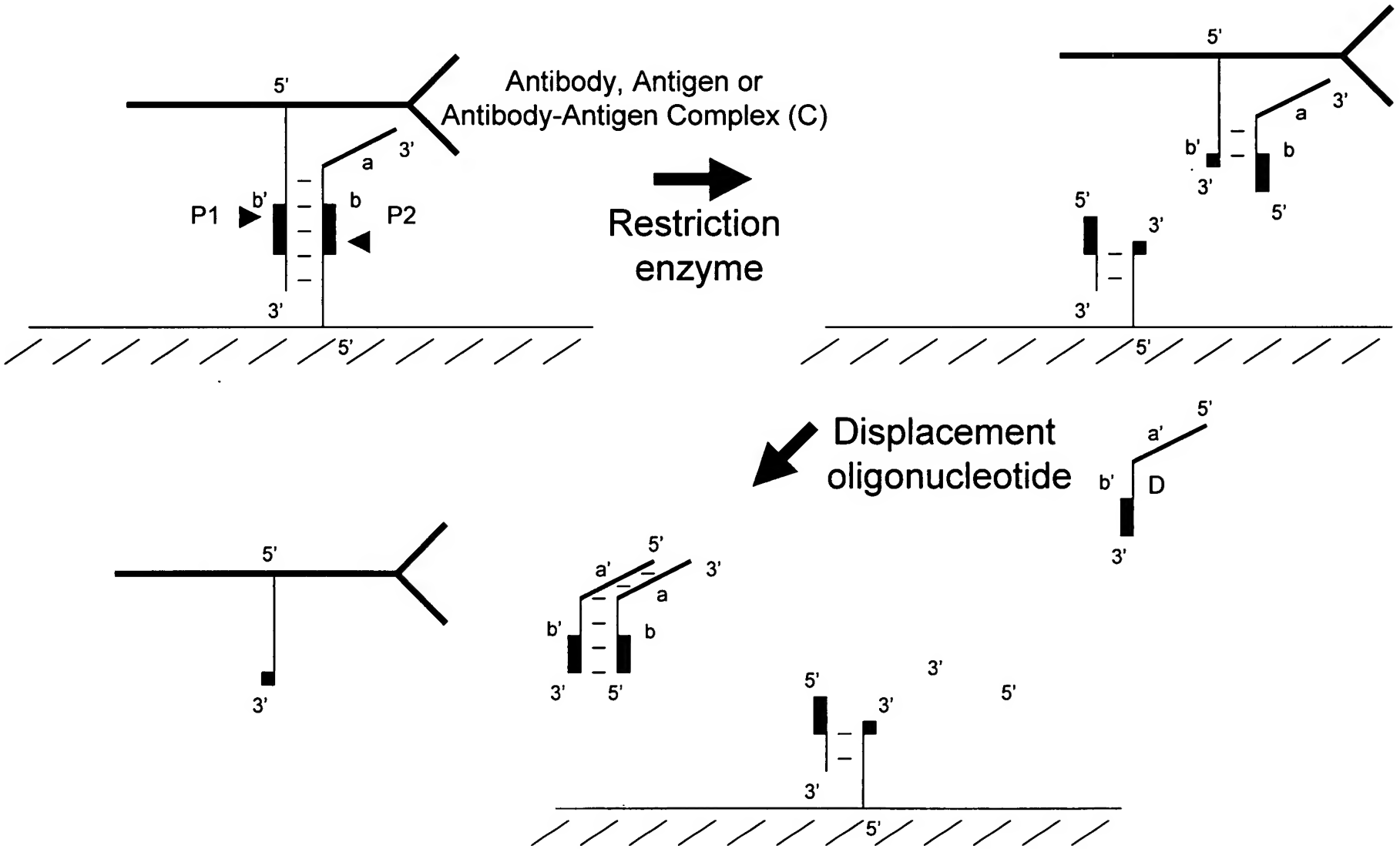


FIGURE 6C
Restriction endonuclease-mediated release

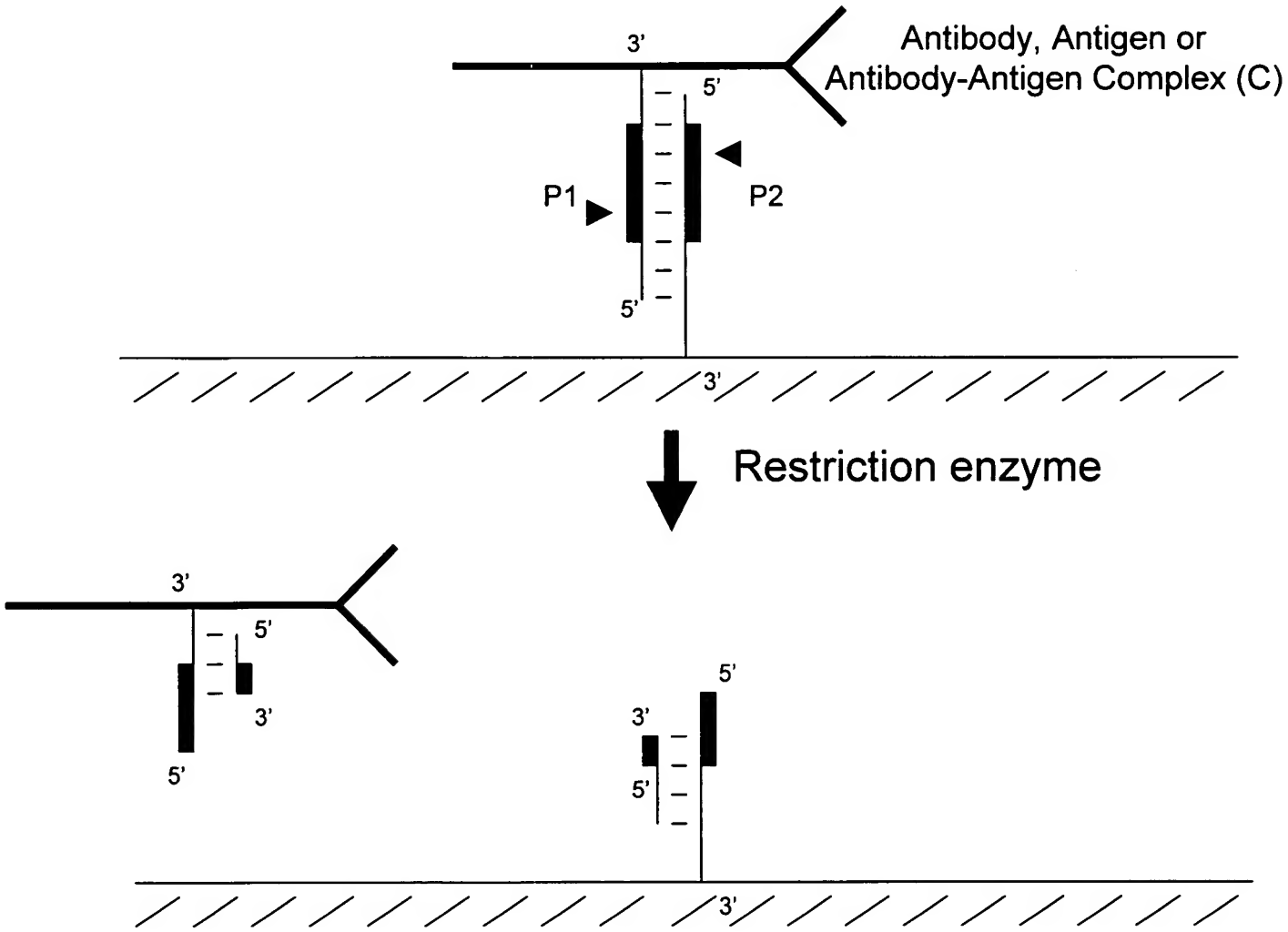


FIGURE 6D
Polymerase and restriction endonuclease-mediated release

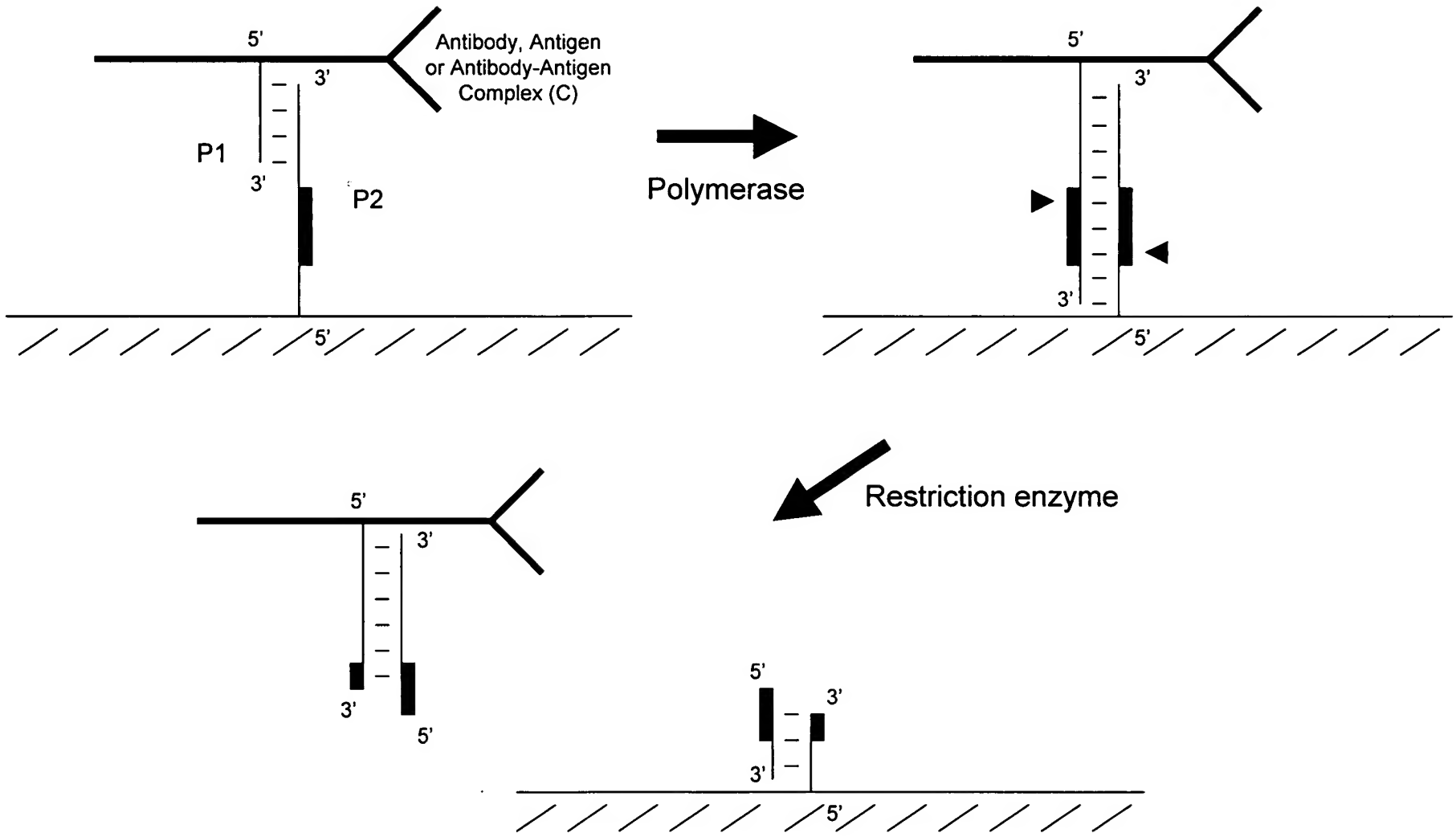


FIGURE 6E
Polymerase and restriction endonuclease-mediated release

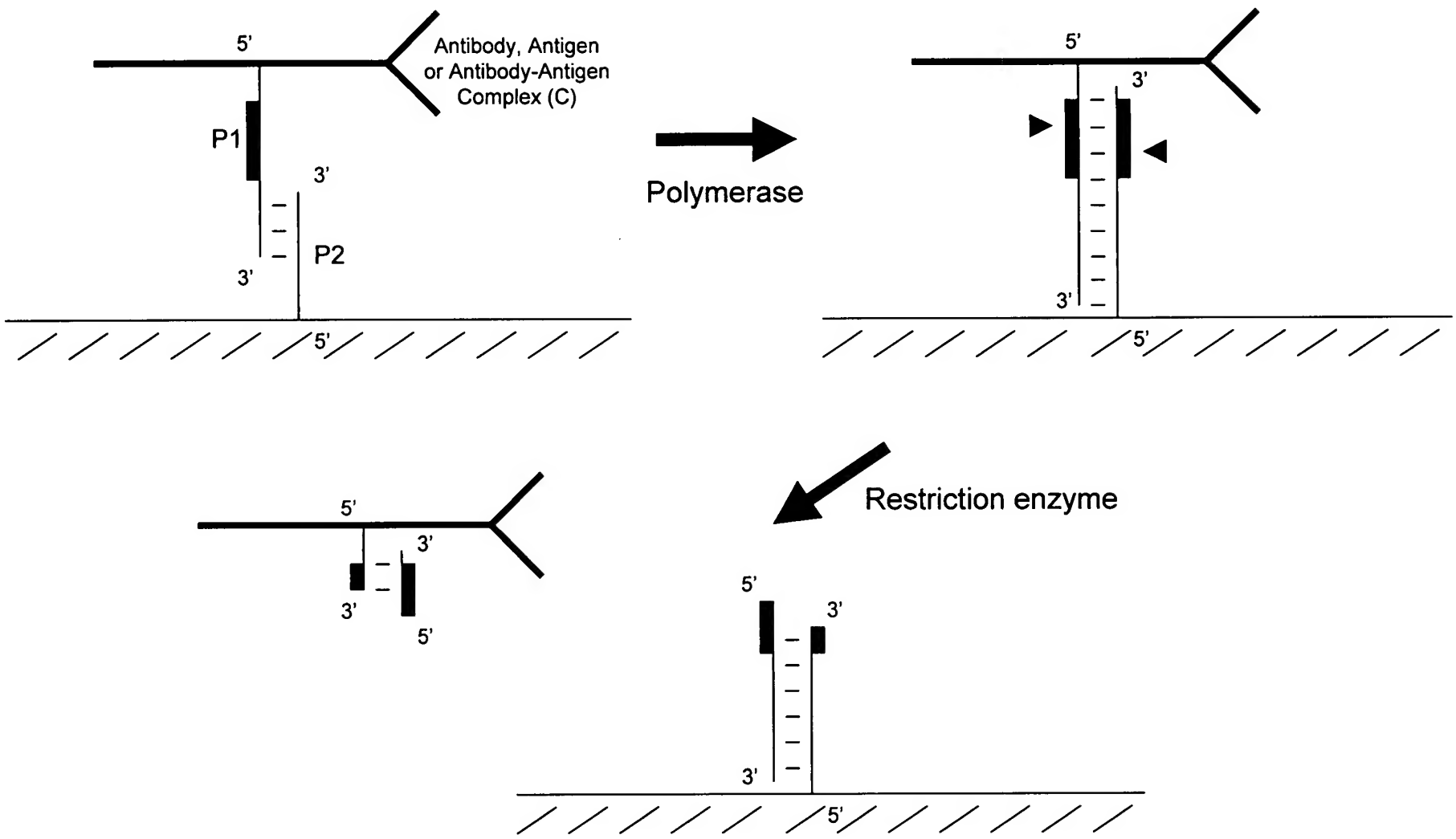


FIGURE 6F
Physical release

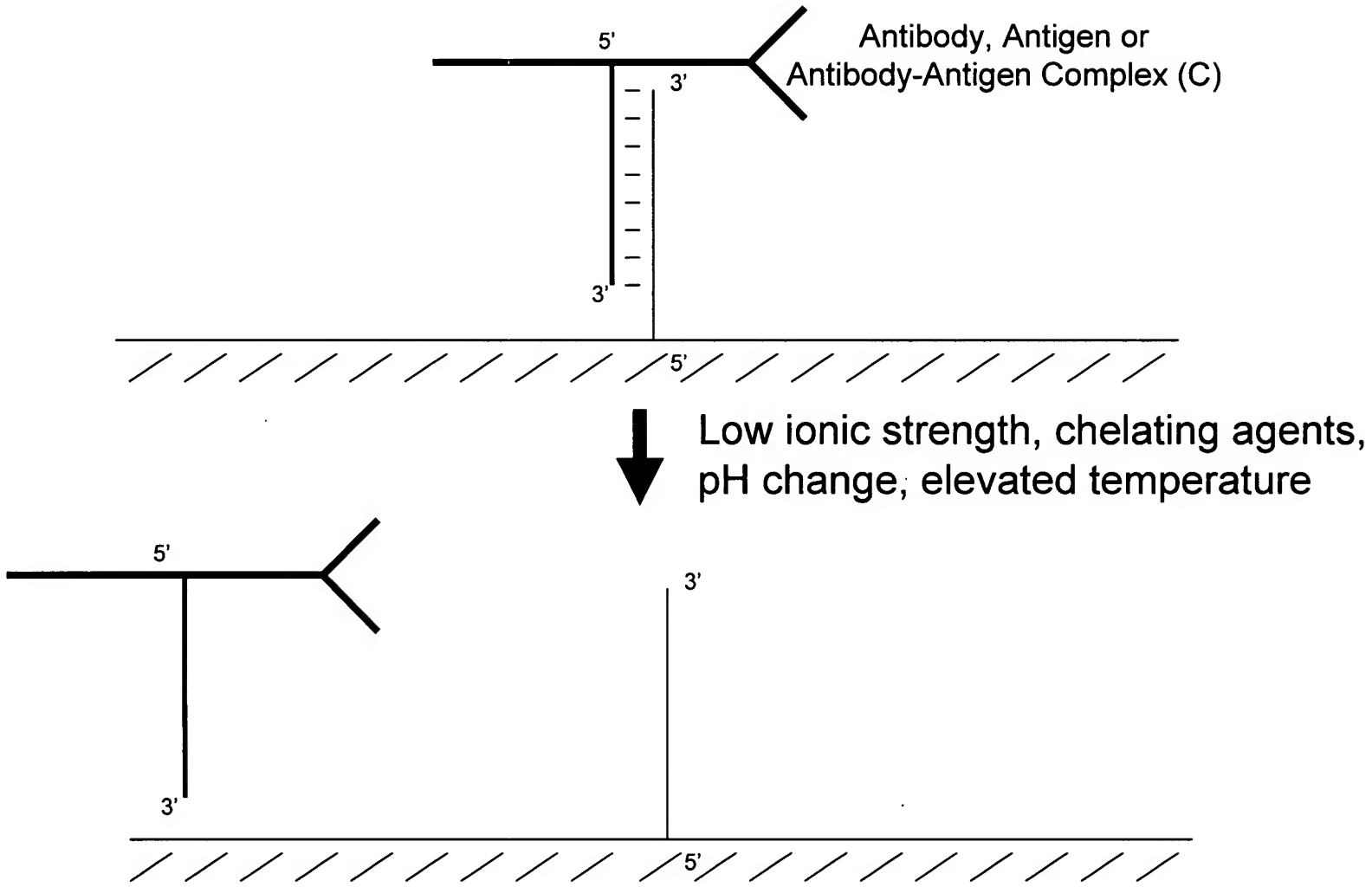


FIGURE 6G
Scissile linkages – chemical cleavage

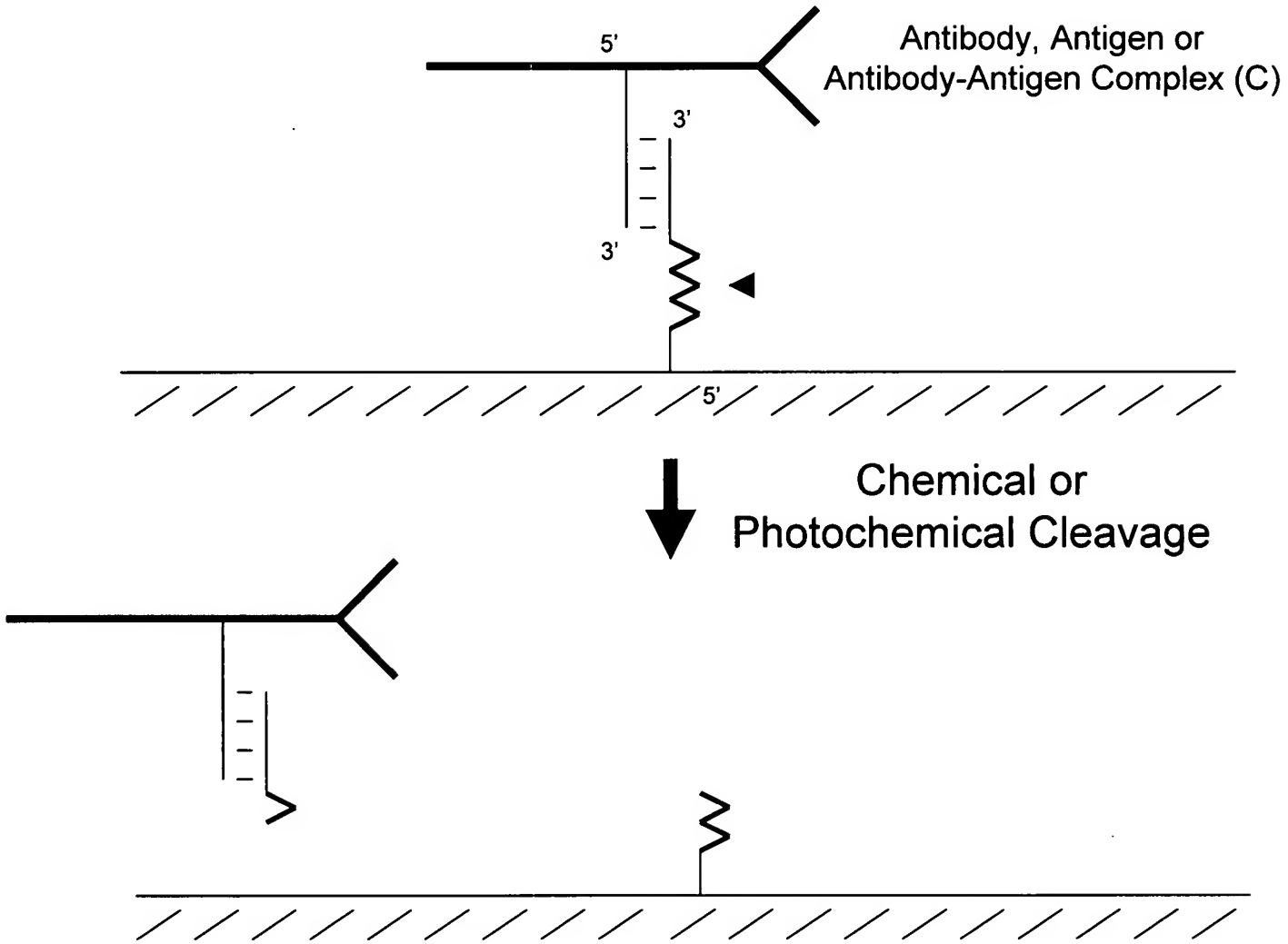


FIGURE 6GG

Scissile linkages – chemical cleavage

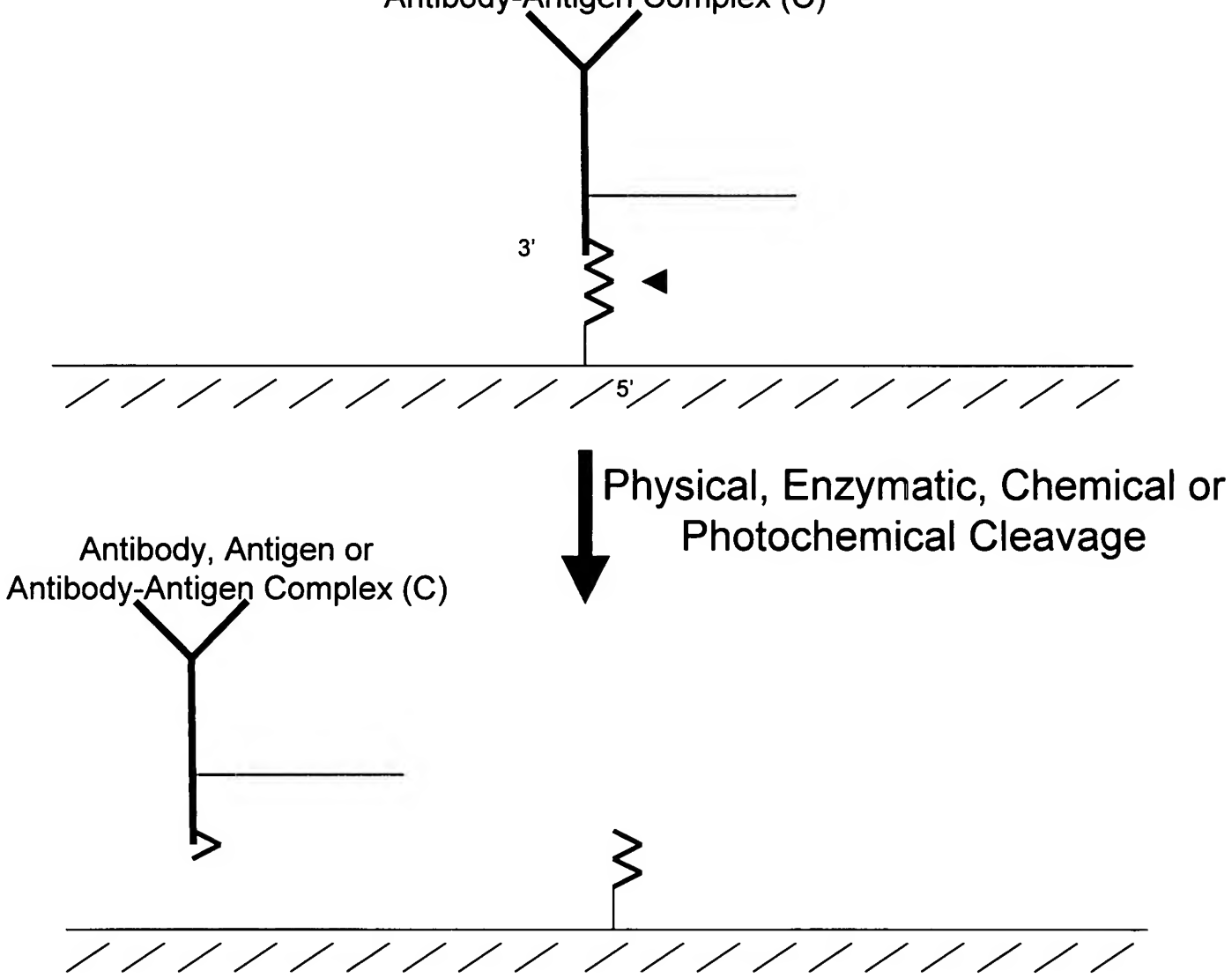


FIGURE 6H
Oligonucleotide displacement

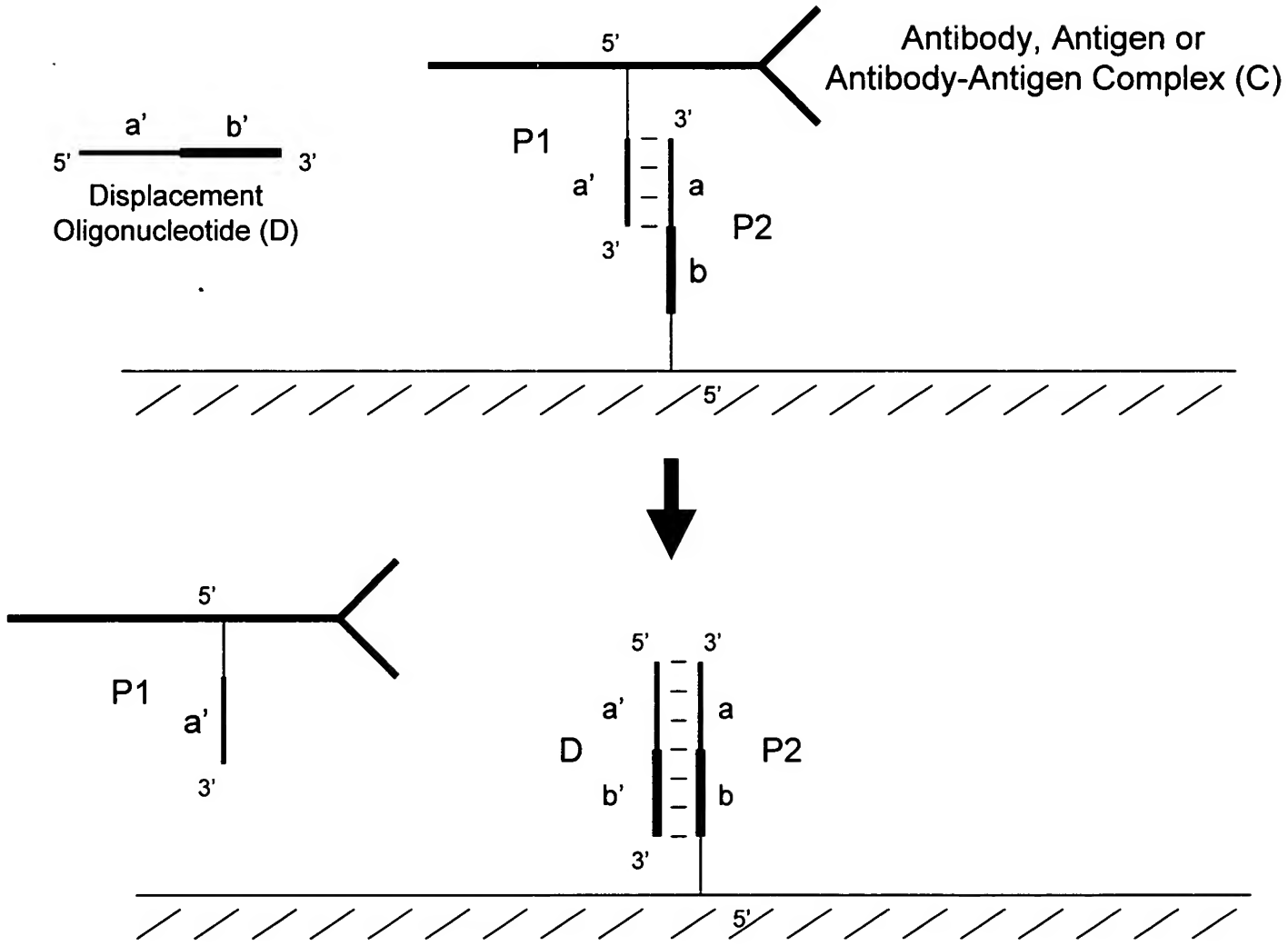


FIGURE 6I
Oligonucleotide extension

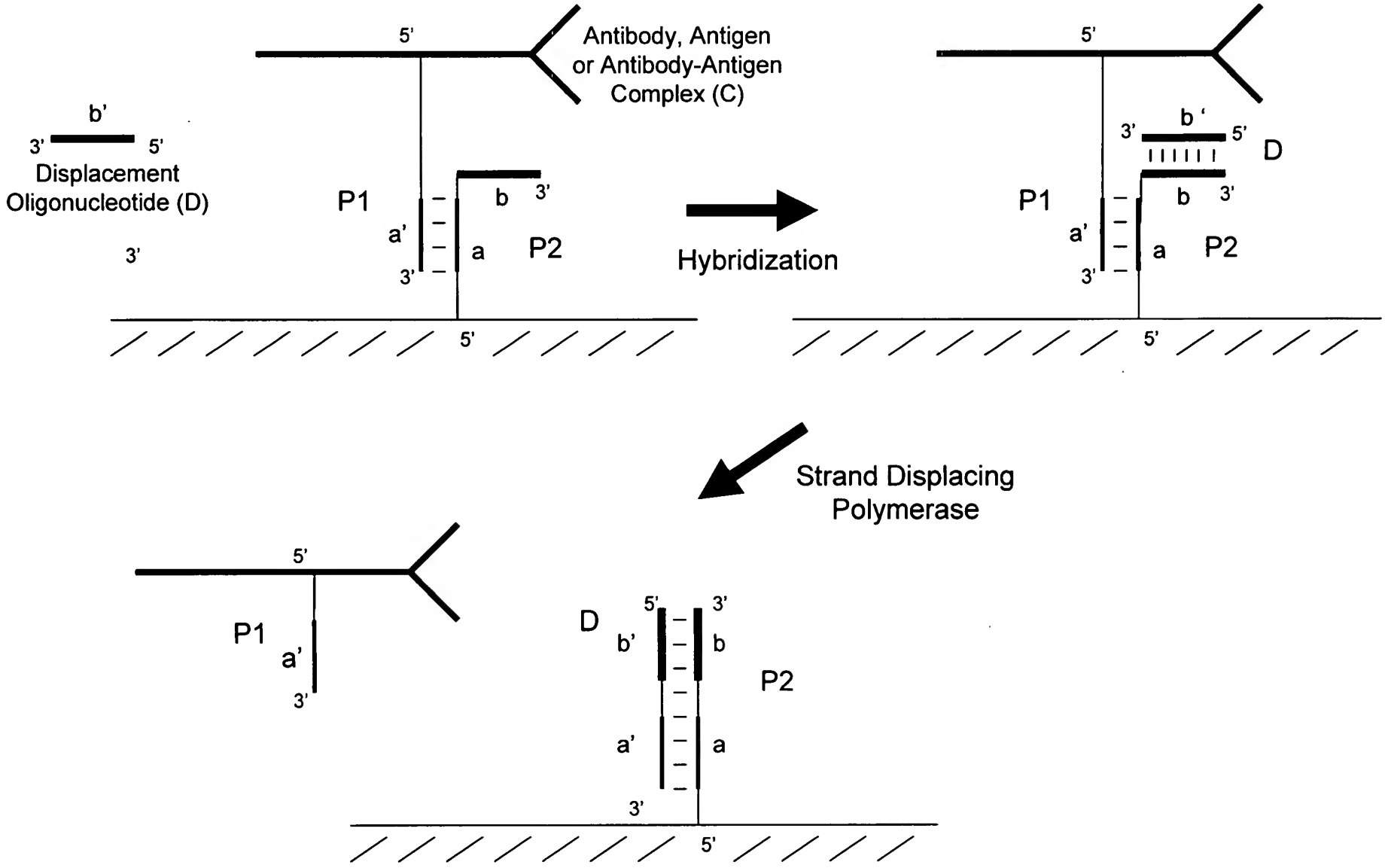


FIGURE 6J
Oligonucleotide extension

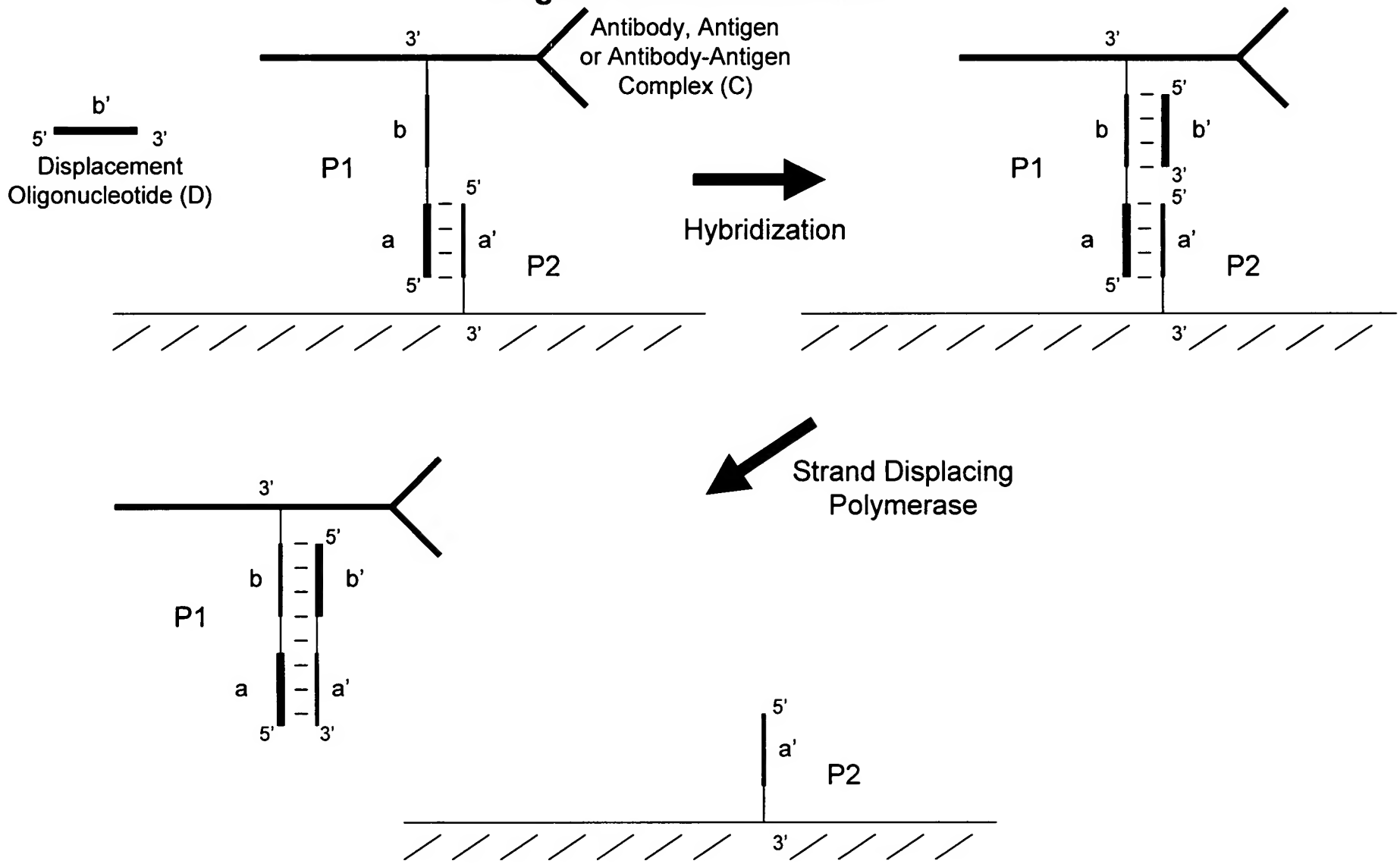


FIGURE 6K
RNase H release

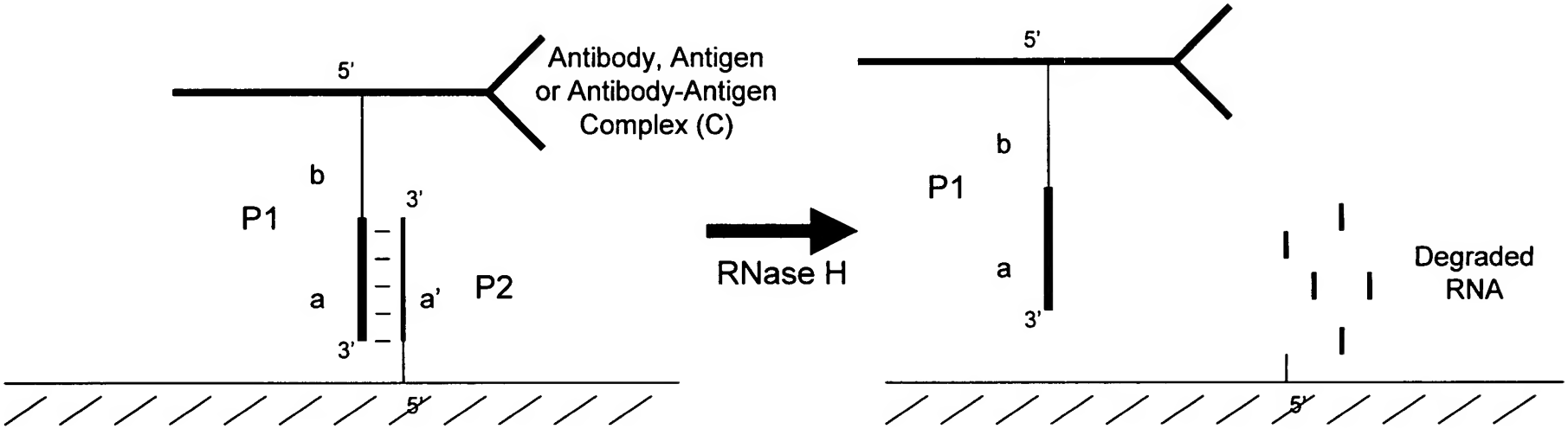


FIGURE 6L
RNase H release

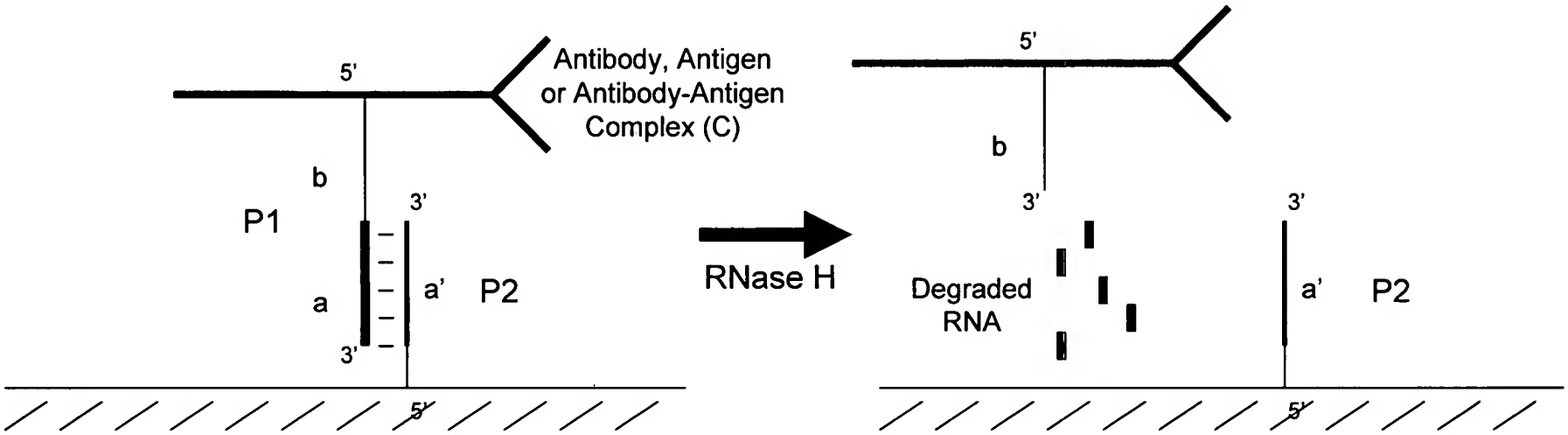


FIGURE 6M
Self-priming capture / displacement oligonucleotide

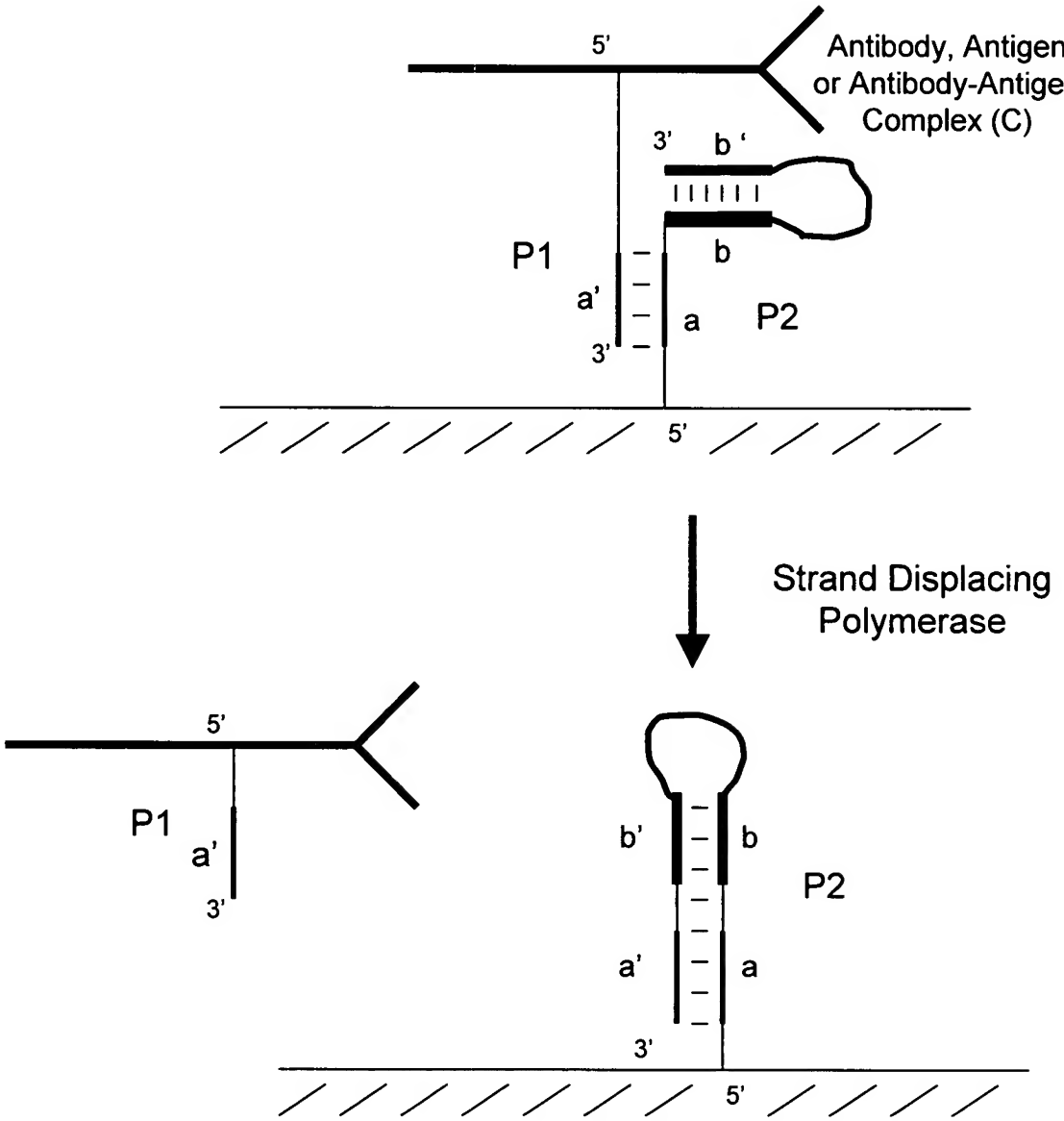


FIGURE 6N
Restriction enzyme-mediated release and formation of amplifiable target

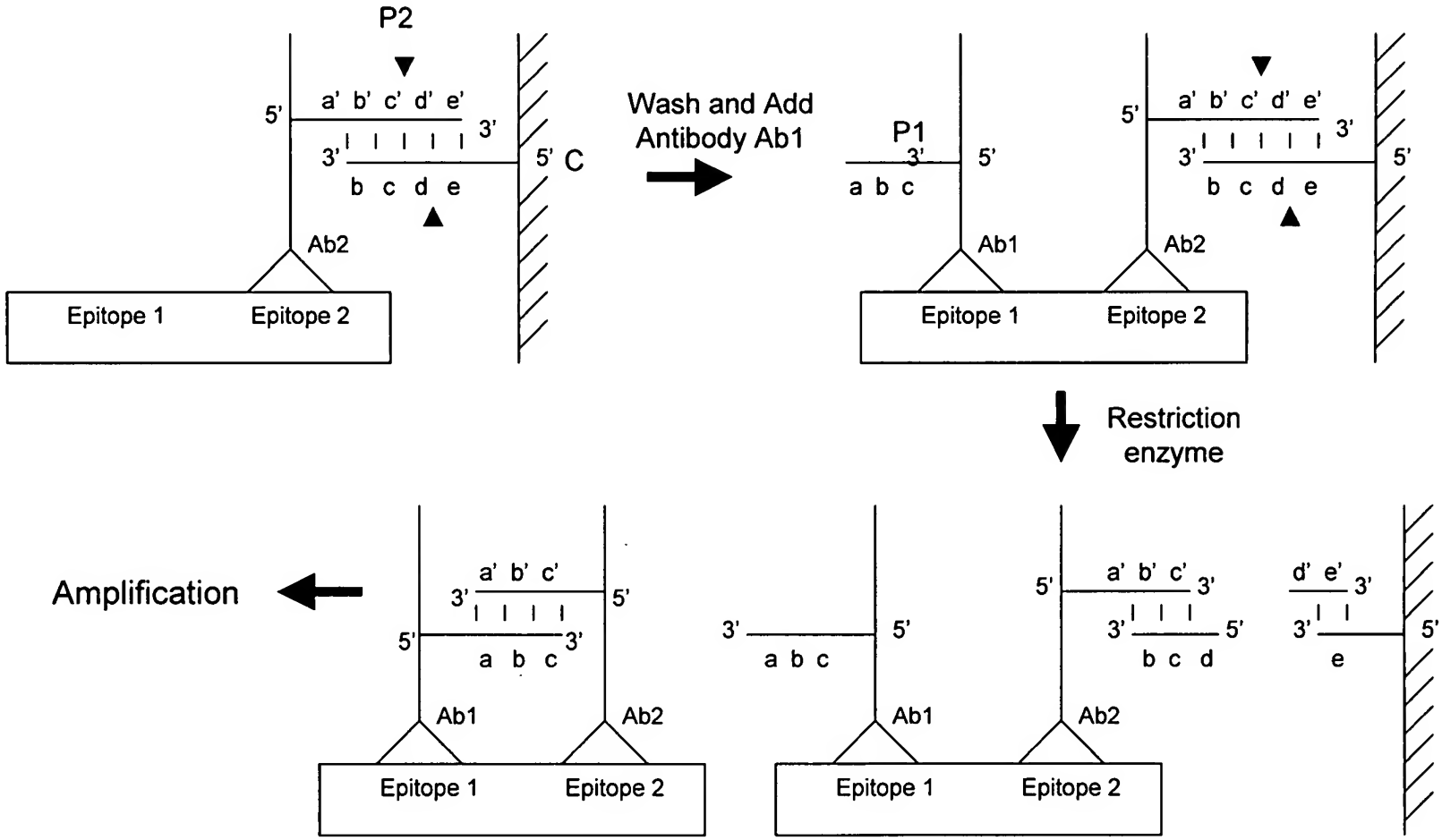


FIGURE 7A

Immobilization of antibody-probe conjugate by hybridization of a probe oligonucleotide to a capture oligonucleotide

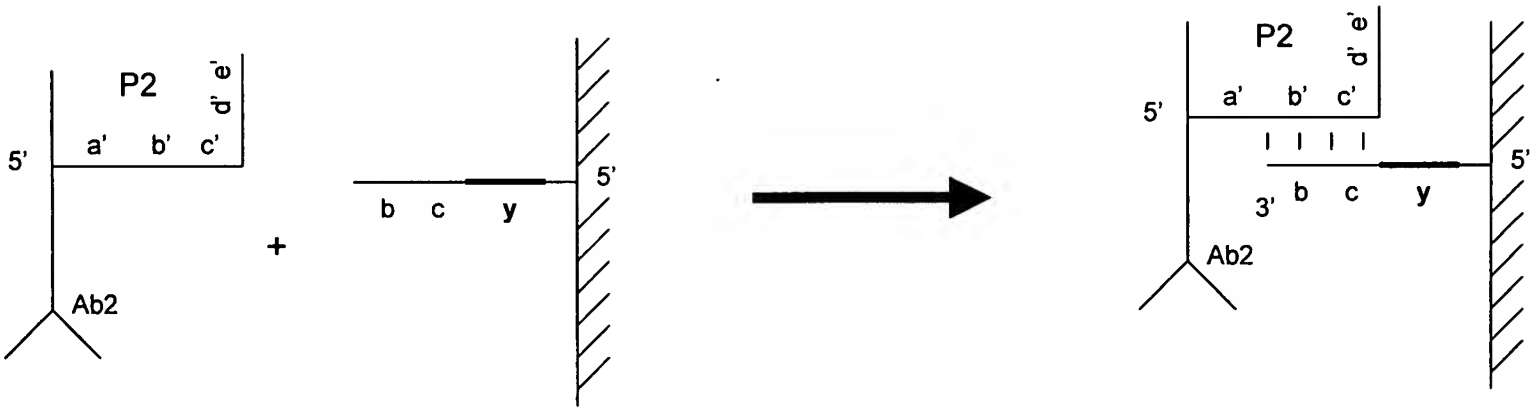


FIGURE 7B

Binding of target ligand to antibody-probe conjugate immobilized by a capture oligonucleotide

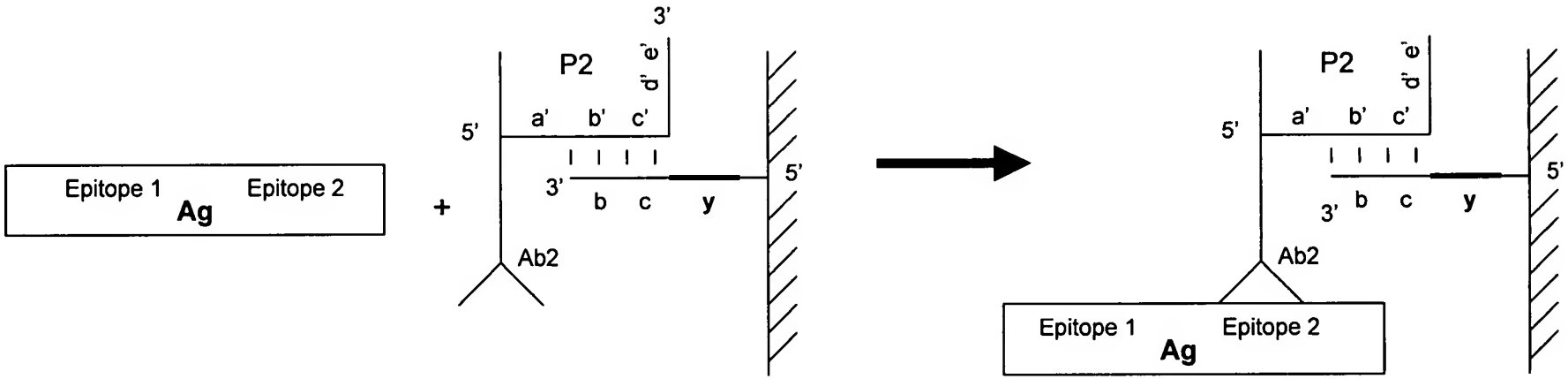


FIGURE 7C

Formation of immobilized two-site "sandwich" complex by binding second antibody-probe conjugate to target ligand

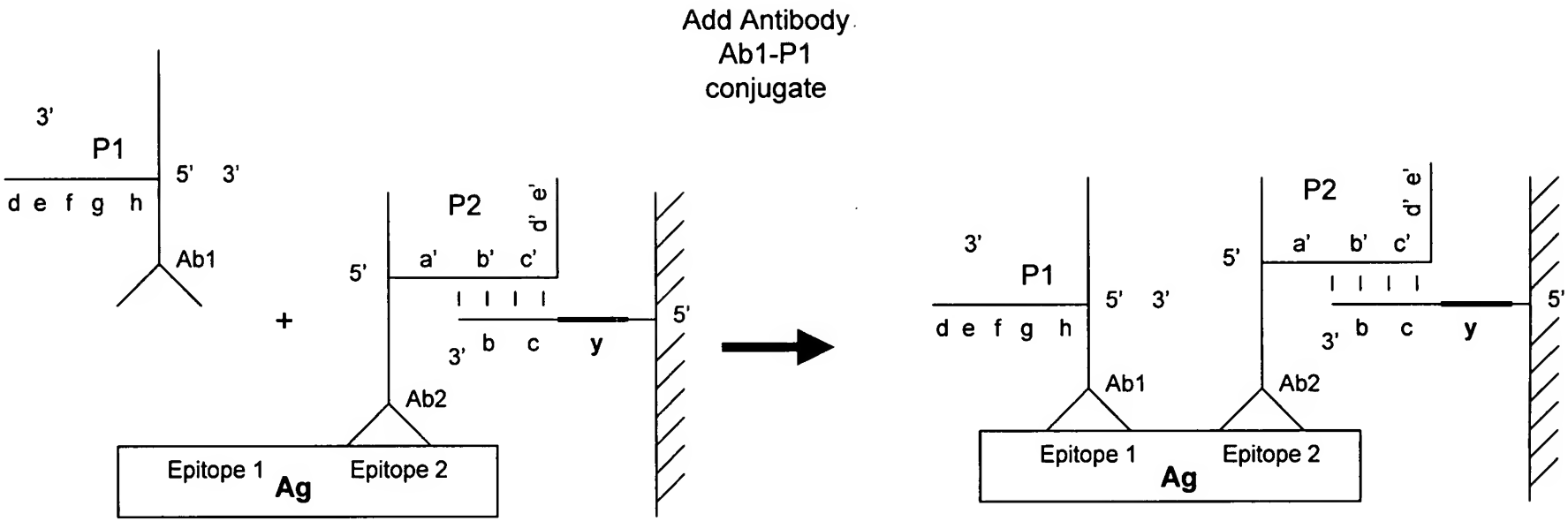


FIGURE 7D
Formation of target-independent complex involving probe-probe (P1-P2) interactions

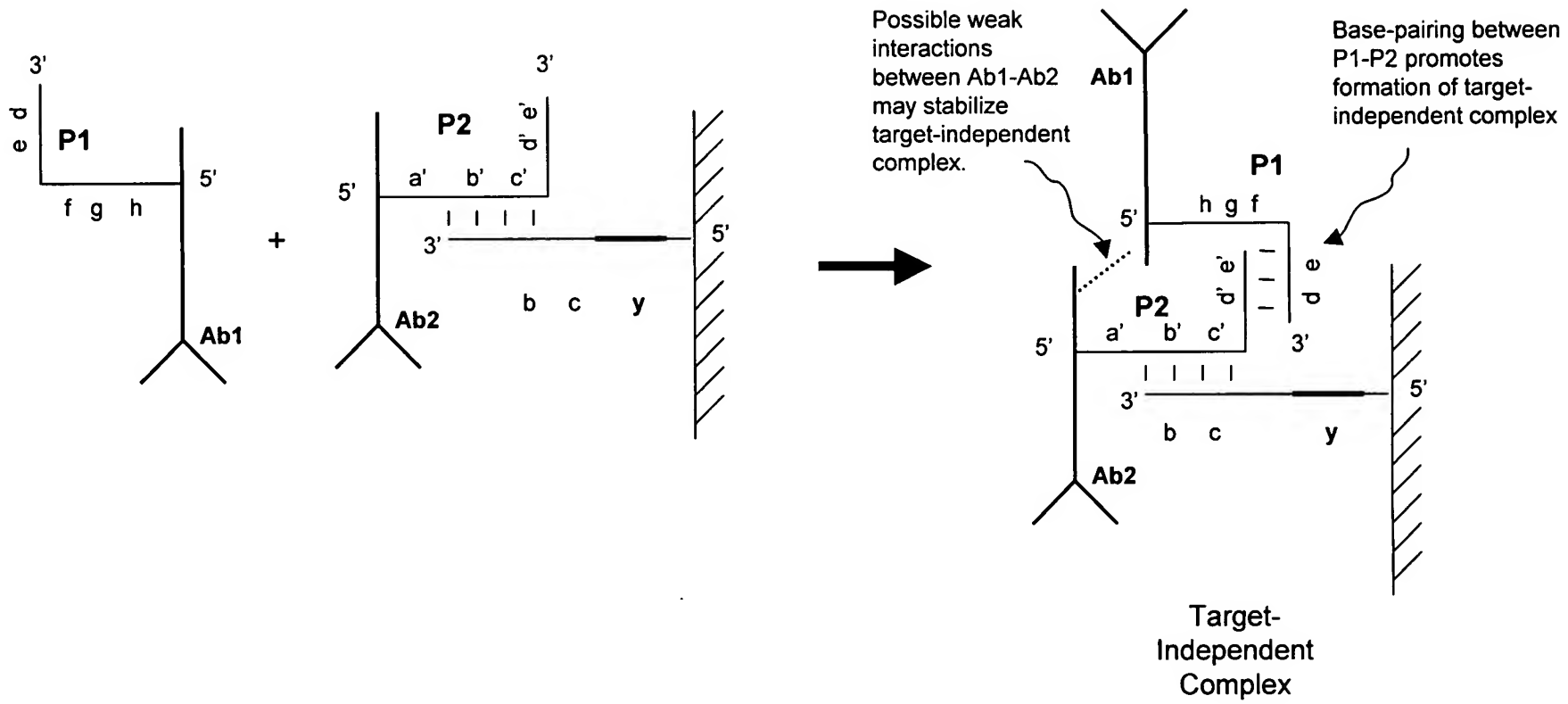


FIGURE 7E
Use of blocking oligonucleotide to suppress P1-P2 interactions leading to target-independent complex formation

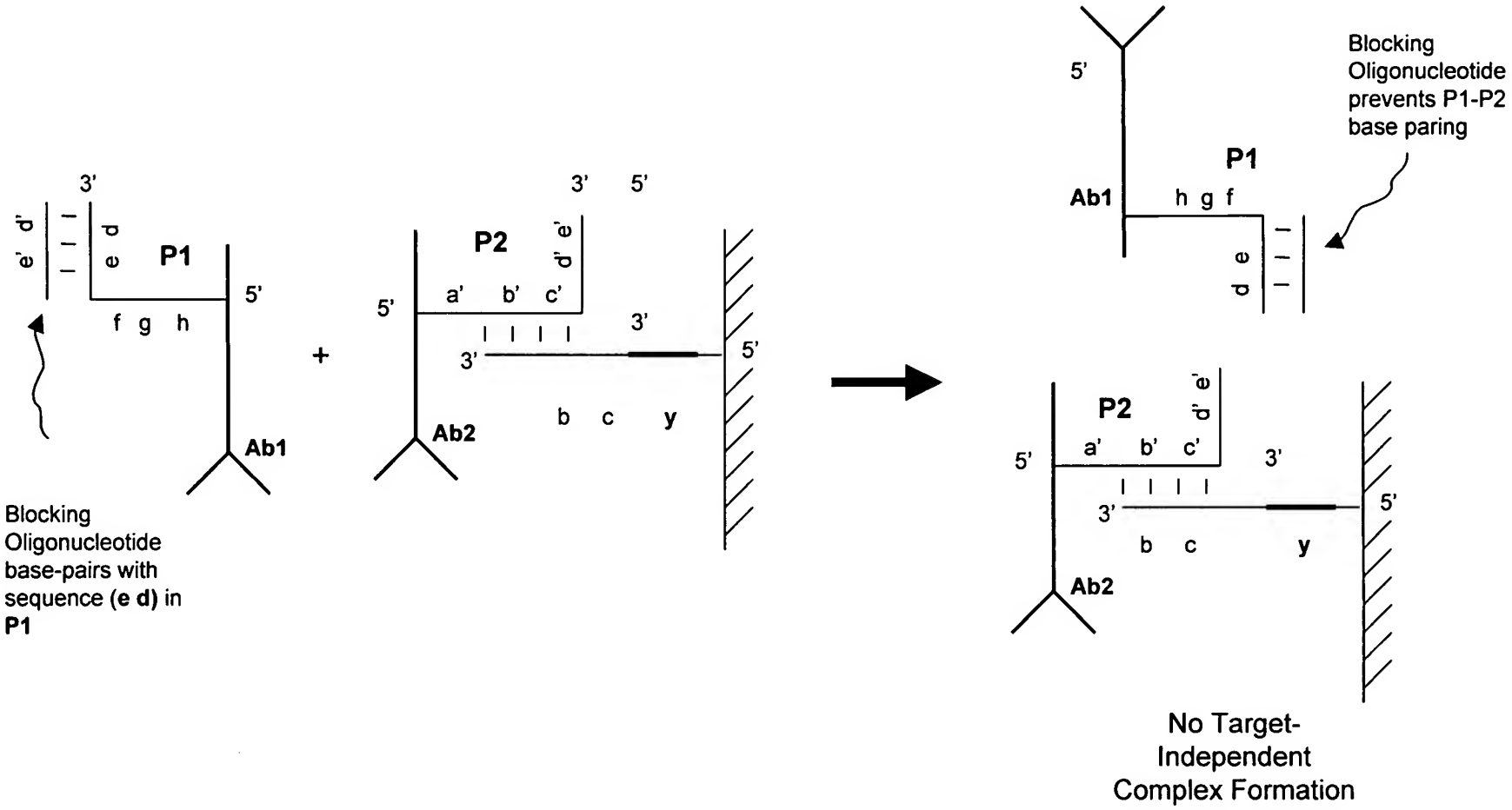


FIGURE 7F
Use of blocking oligonucleotide to suppress P1-P2 interactions and prevent target-independent complex formation

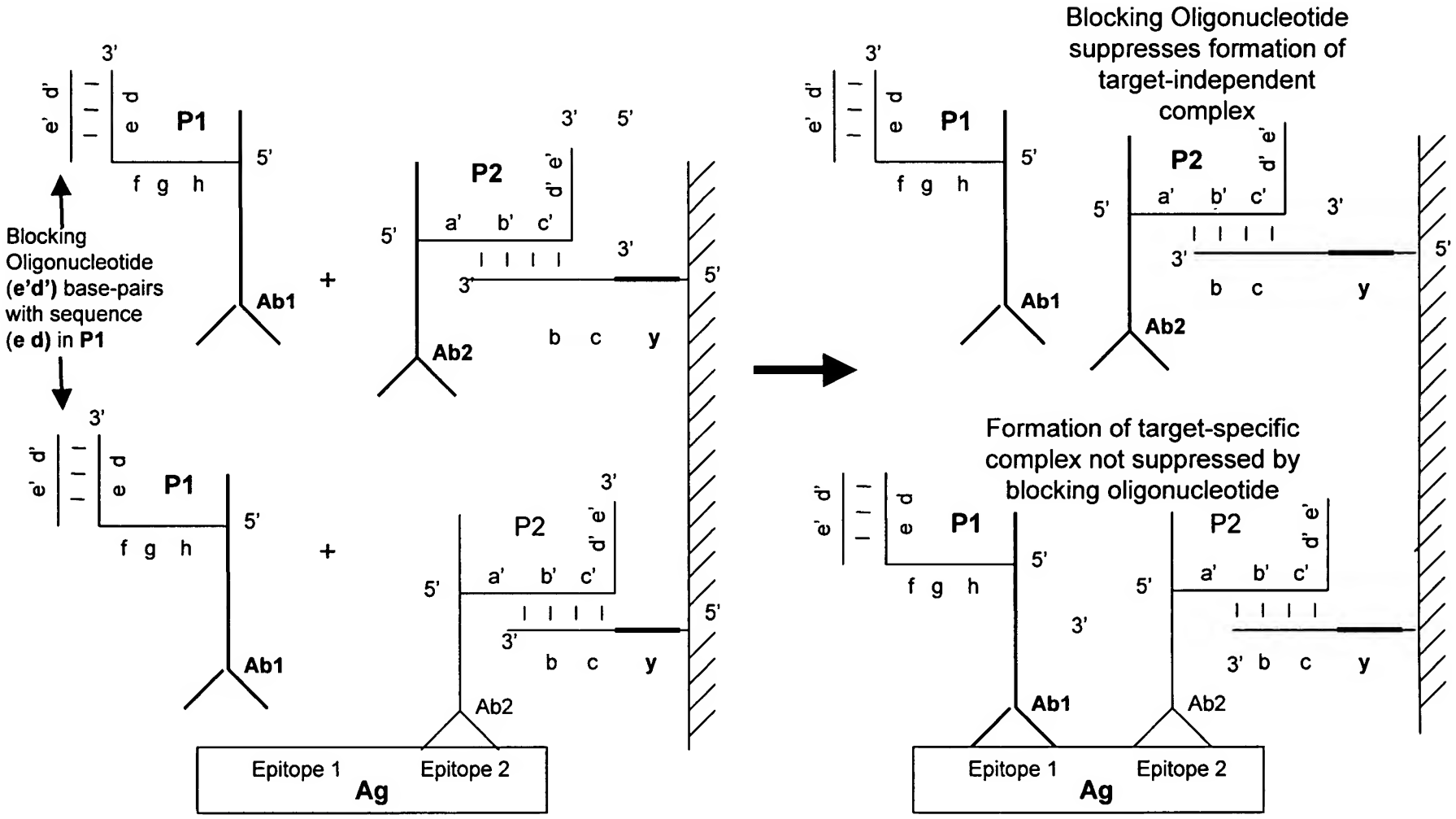


FIGURE 7G
Use of blocking oligonucleotide to suppress P1-P2 interactions and prevent target-independent complex formation

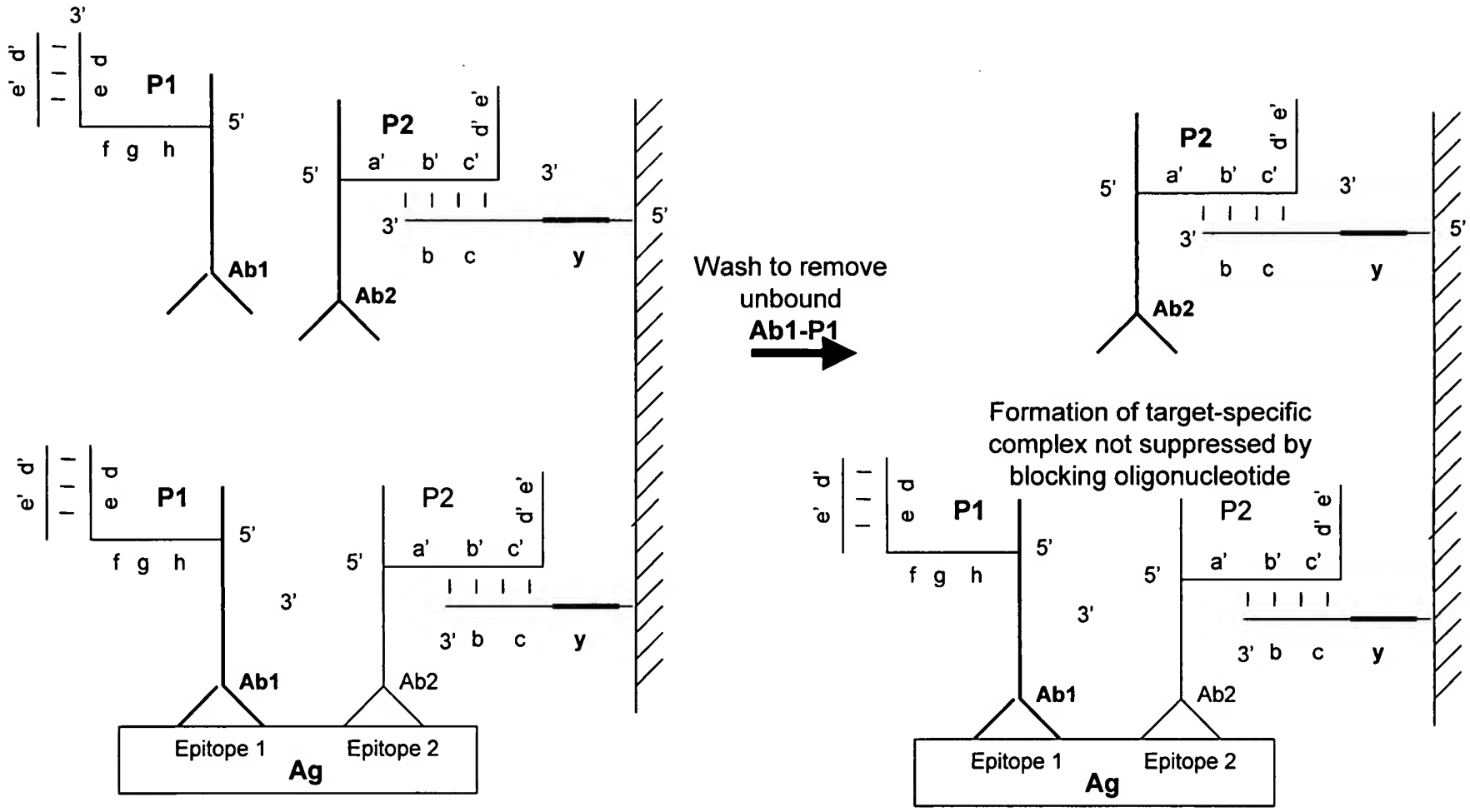
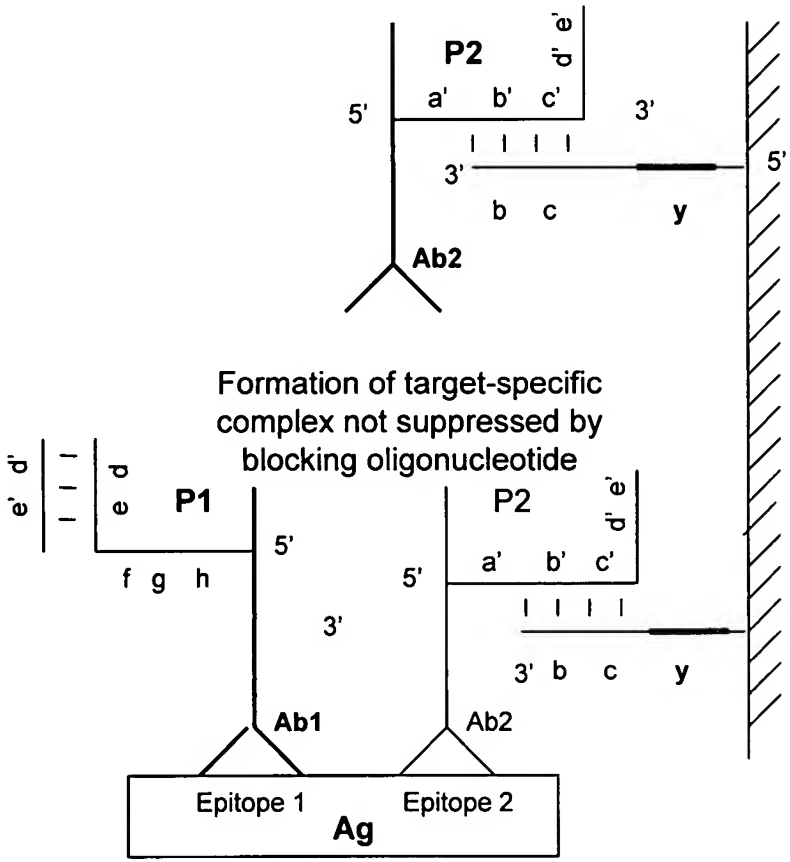


FIGURE 7H

Use of blocking oligonucleotide to suppress P1-P2 interactions and prevent target-independent complex formation



Release complex and amplify

FIGURE 7I
Immobilization:
release with low-ionic strength

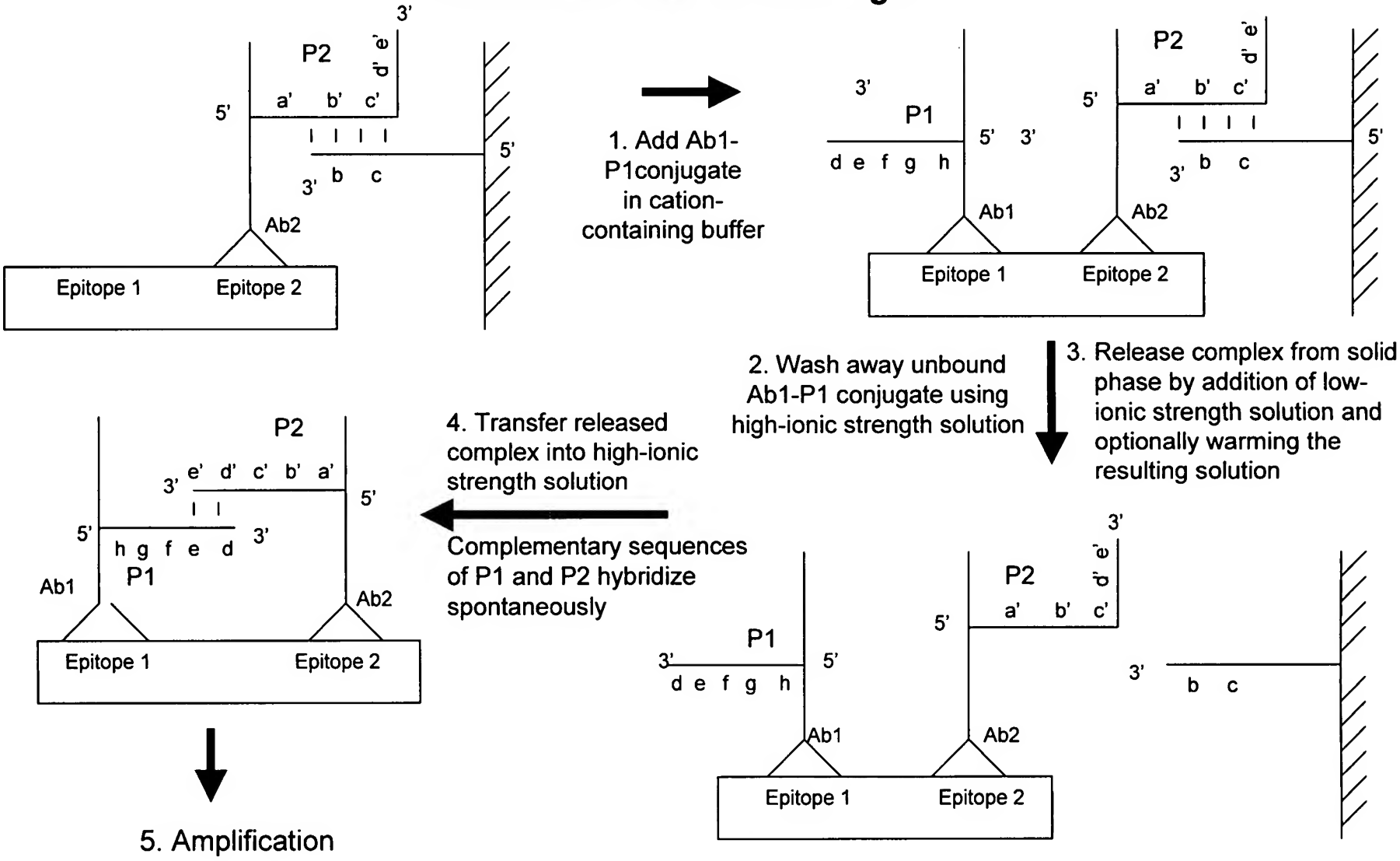


FIGURE 7J
Heterogeneous formation and displacement of amplifiable complex

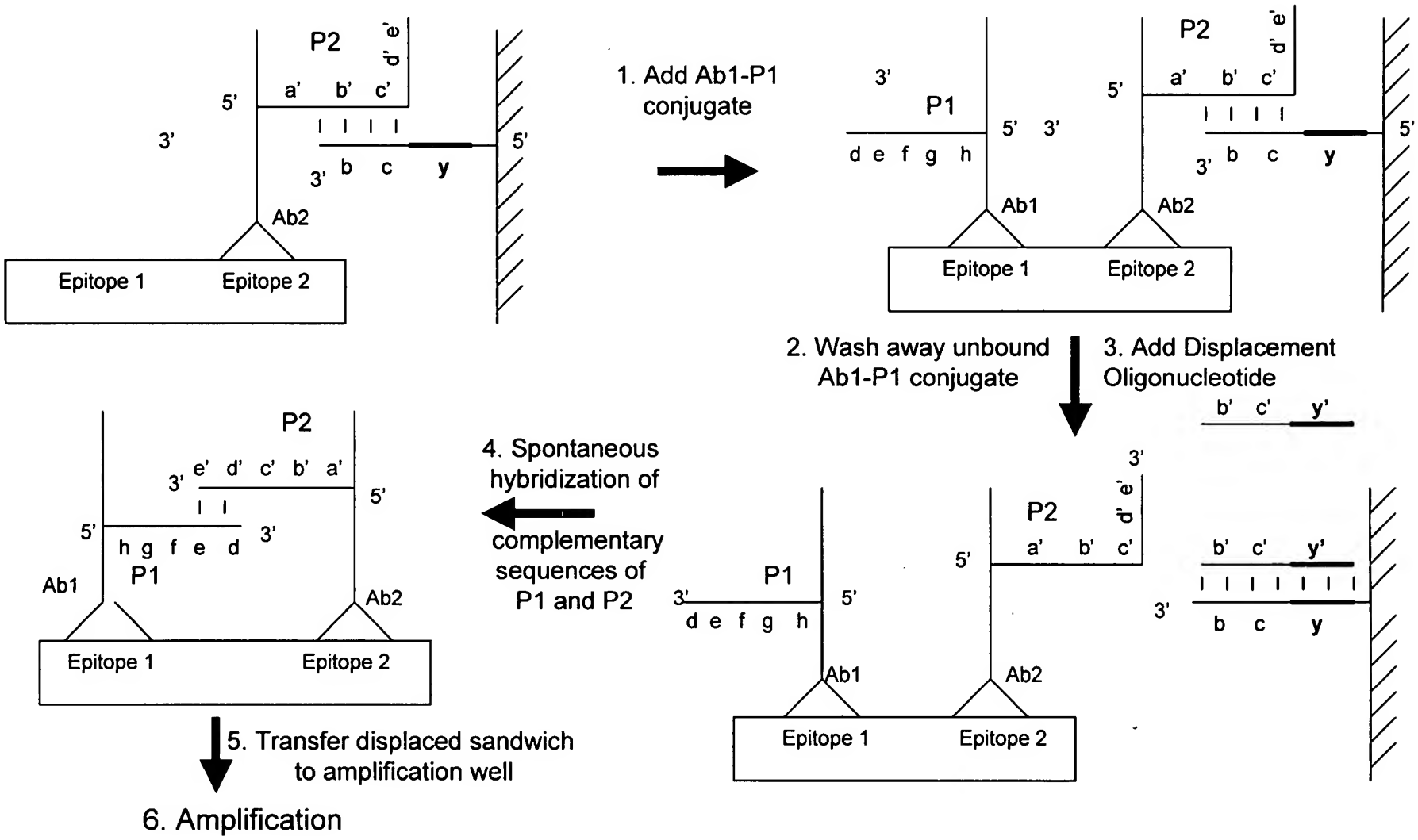


FIGURE 8A
Heterogeneous immuno-amplification

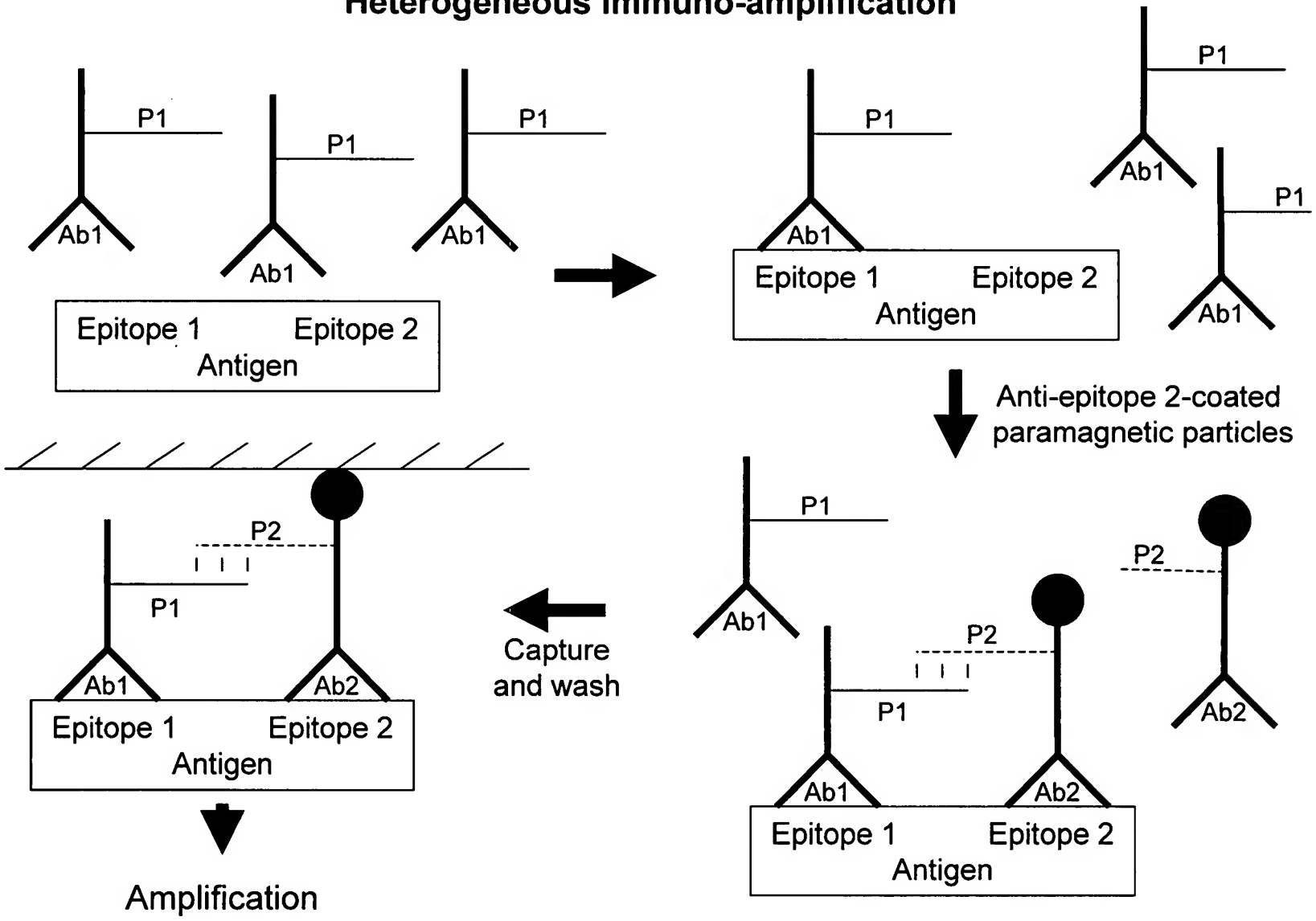


FIGURE 8B
Heterogeneous immuno-amplification

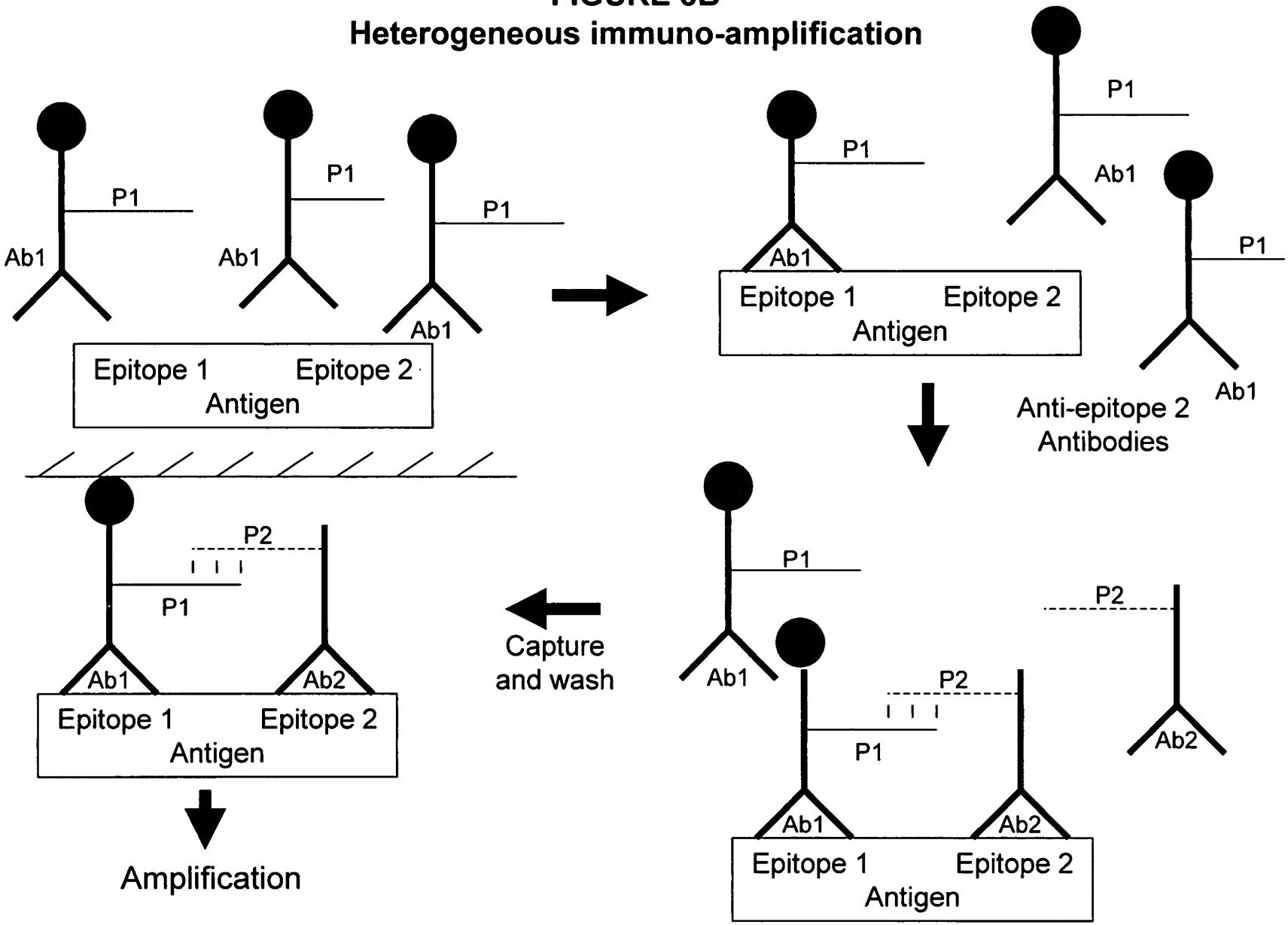


FIGURE 8C: Heterogeneous immuno-amplification

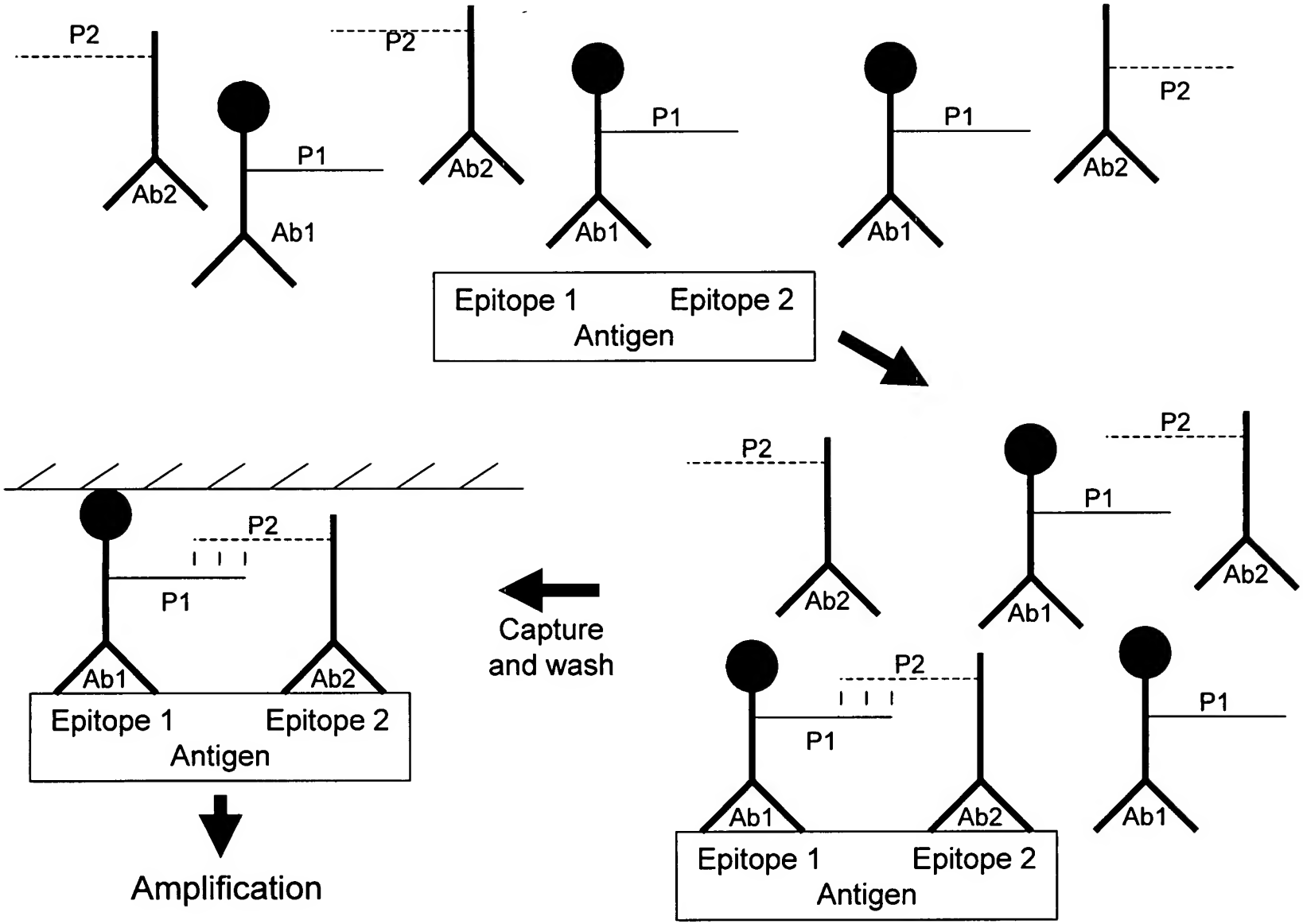


FIGURE 8D
Heterogeneous immuno-amplification with scissile linkage

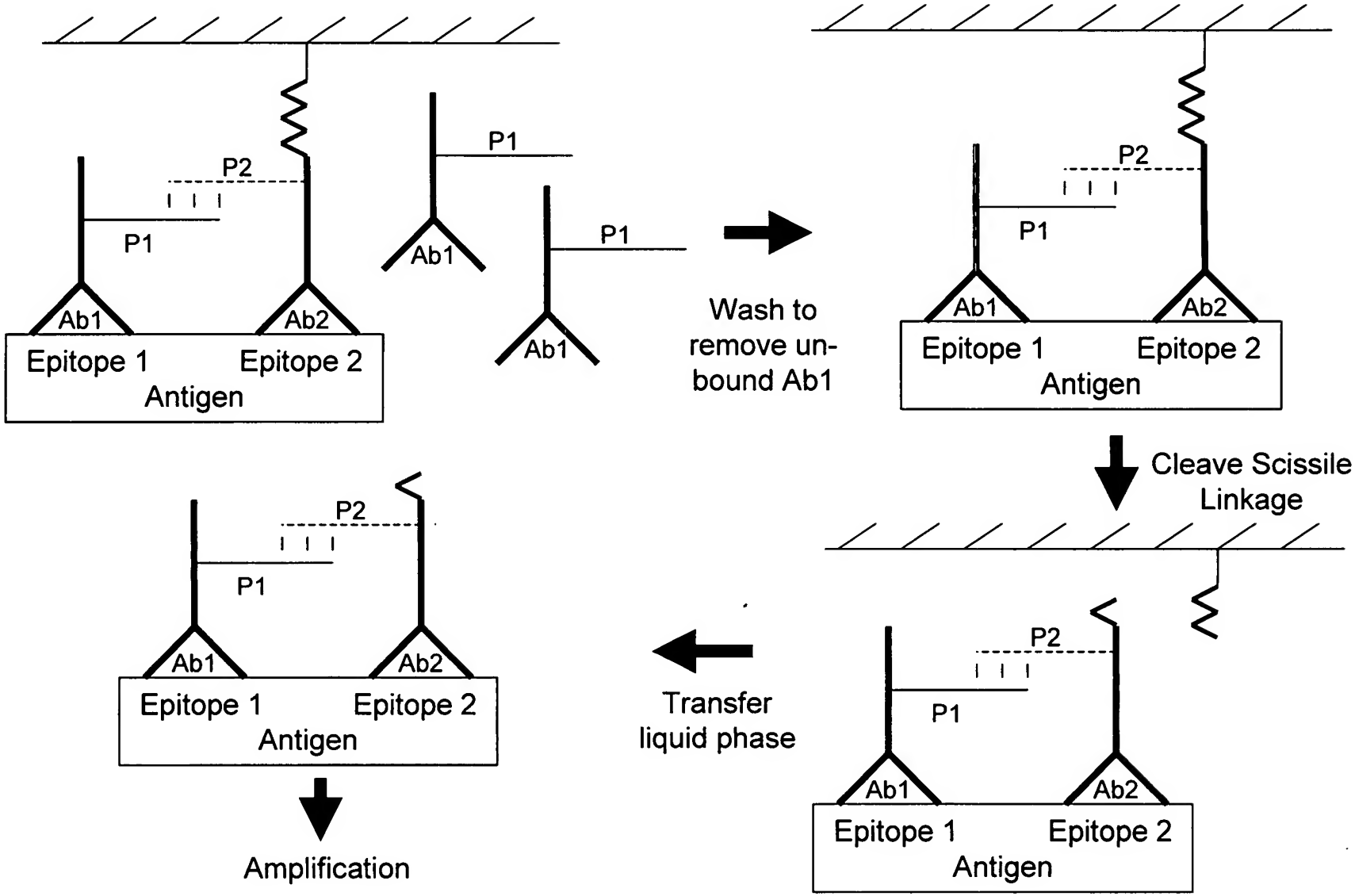


FIGURE 9

Heterogeneous immuno-amplification with linker oligonucleotides

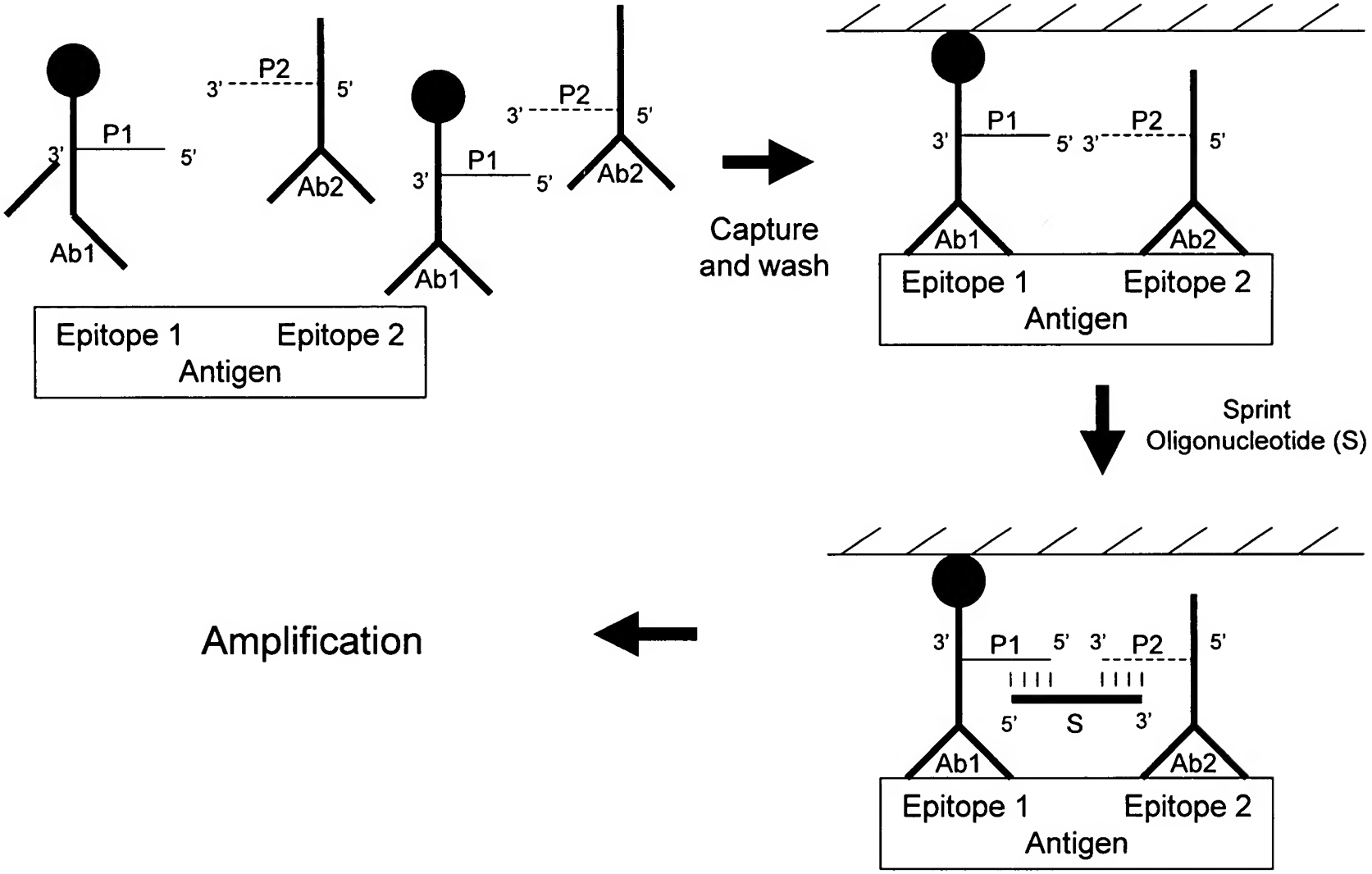


FIGURE 10
Universal immuno-amplification system

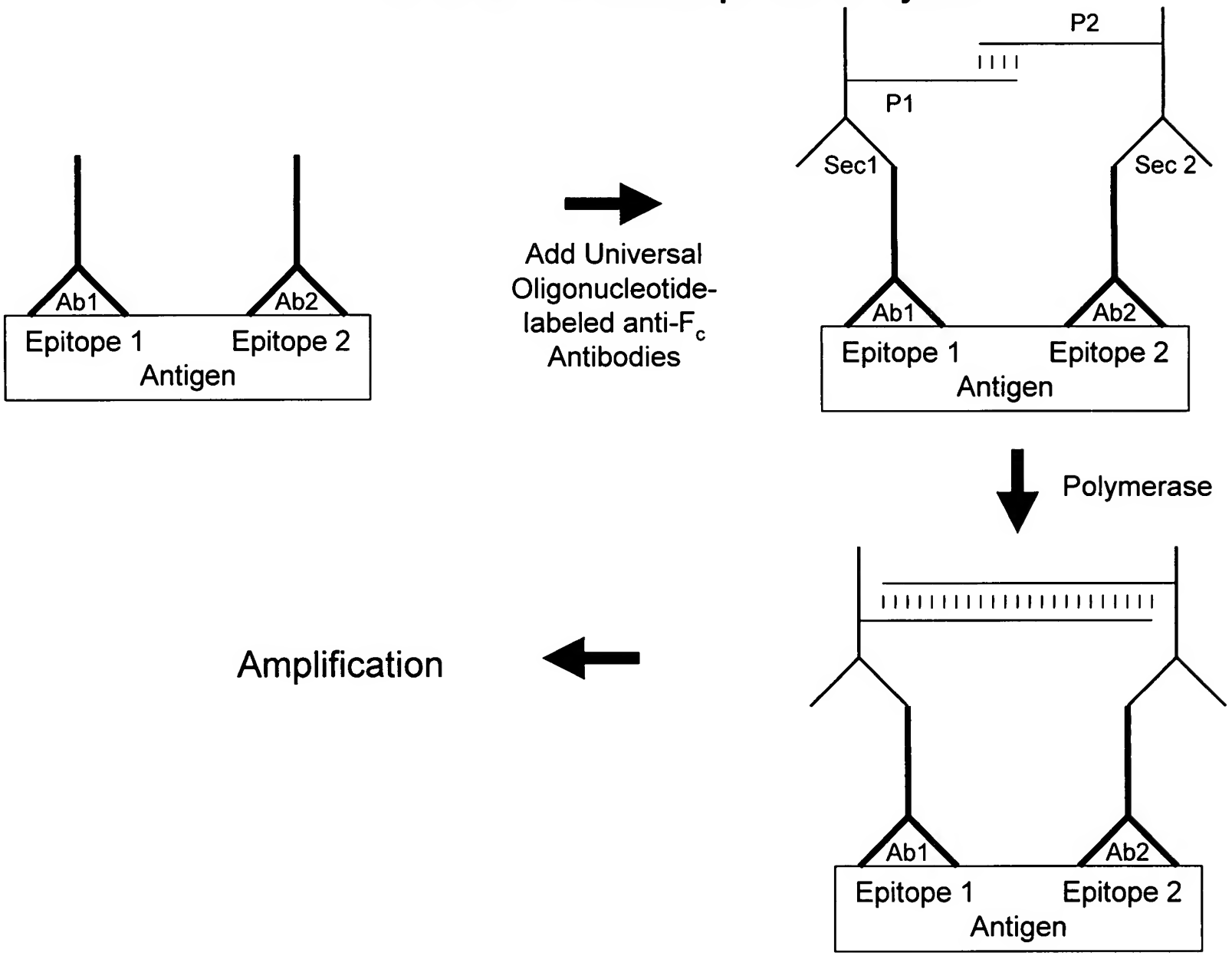


FIGURE 11A
Hairpin blocking probes

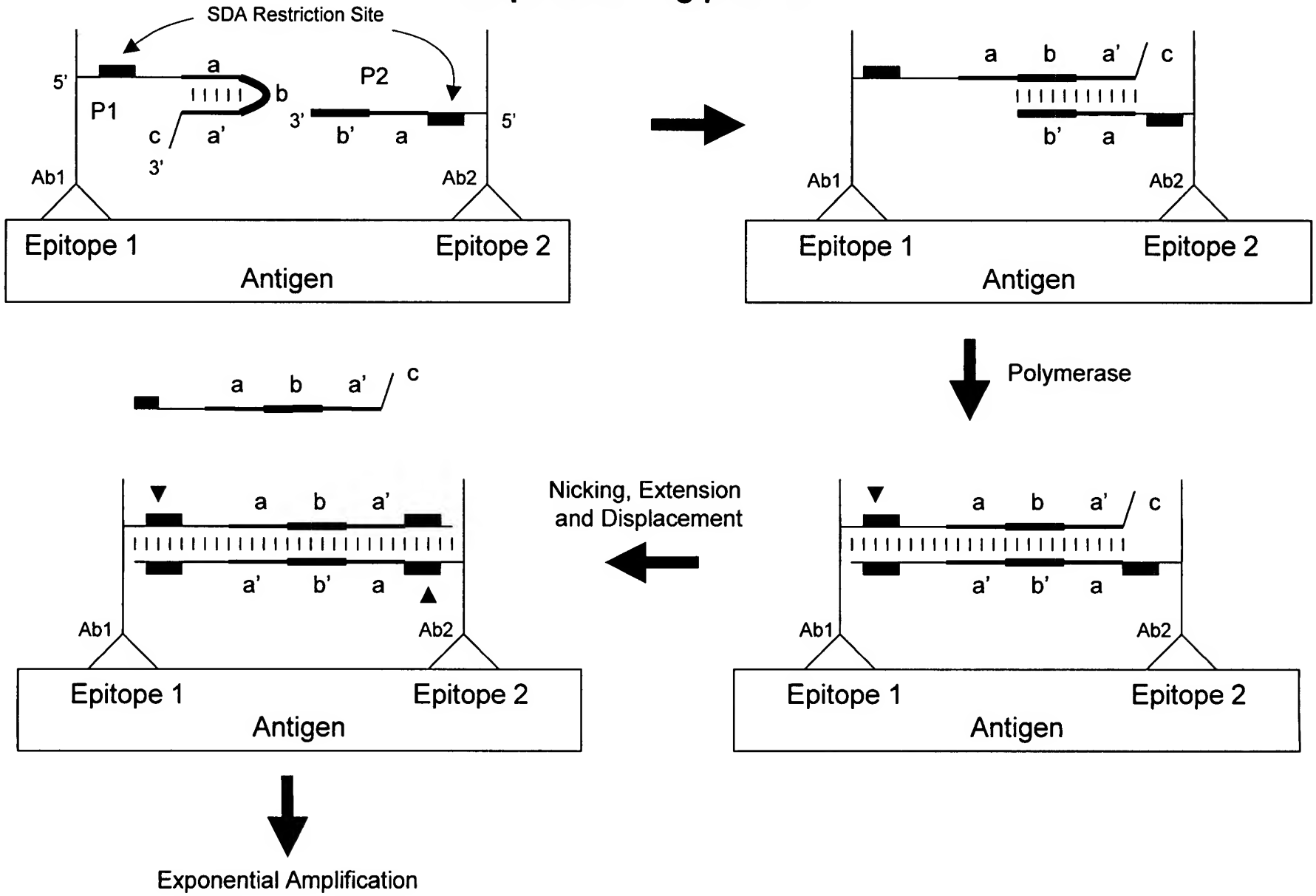


FIGURE 11B
Hairpin blocking probes

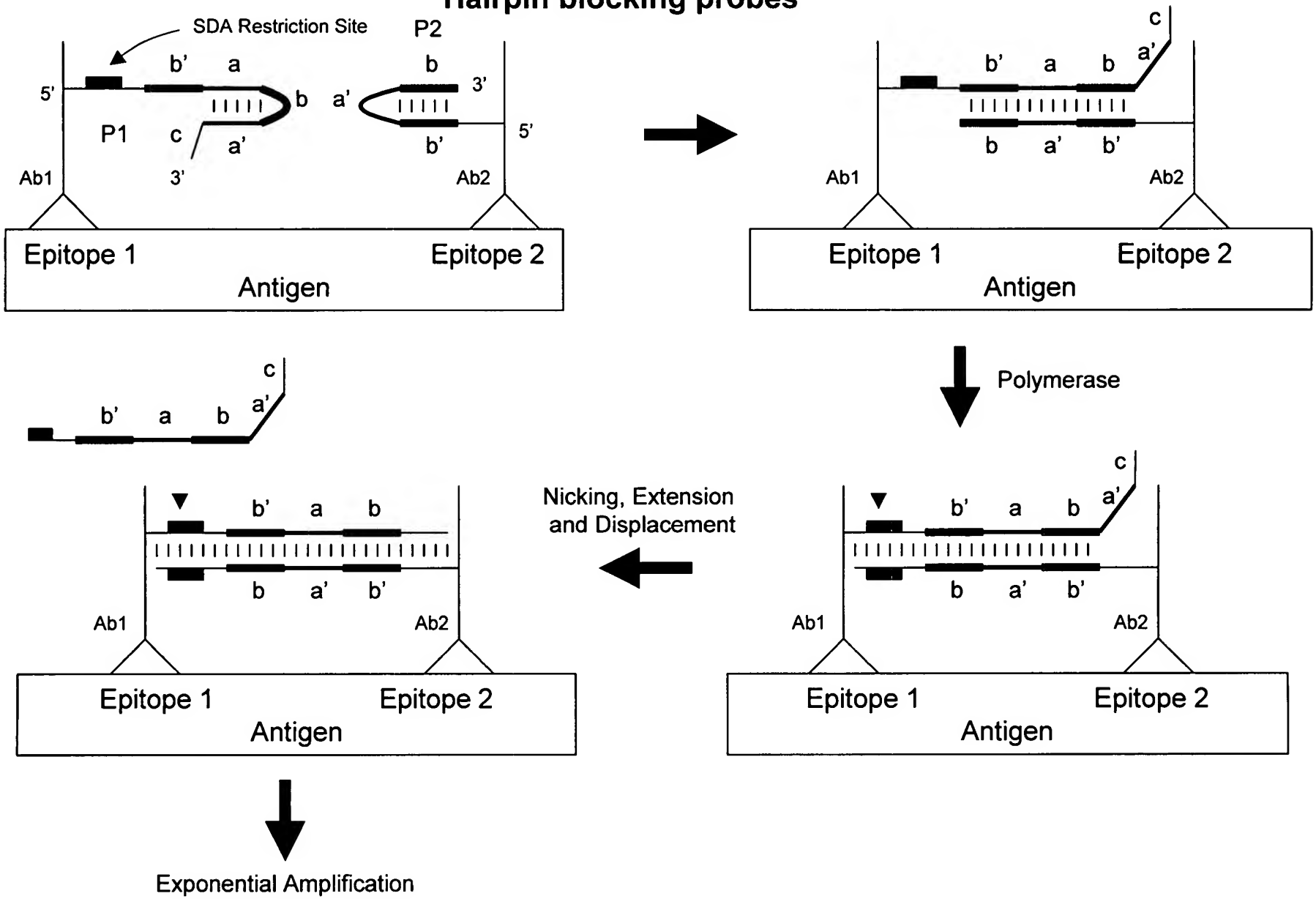


FIGURE 11C
Displacement of hairpin blocking probes

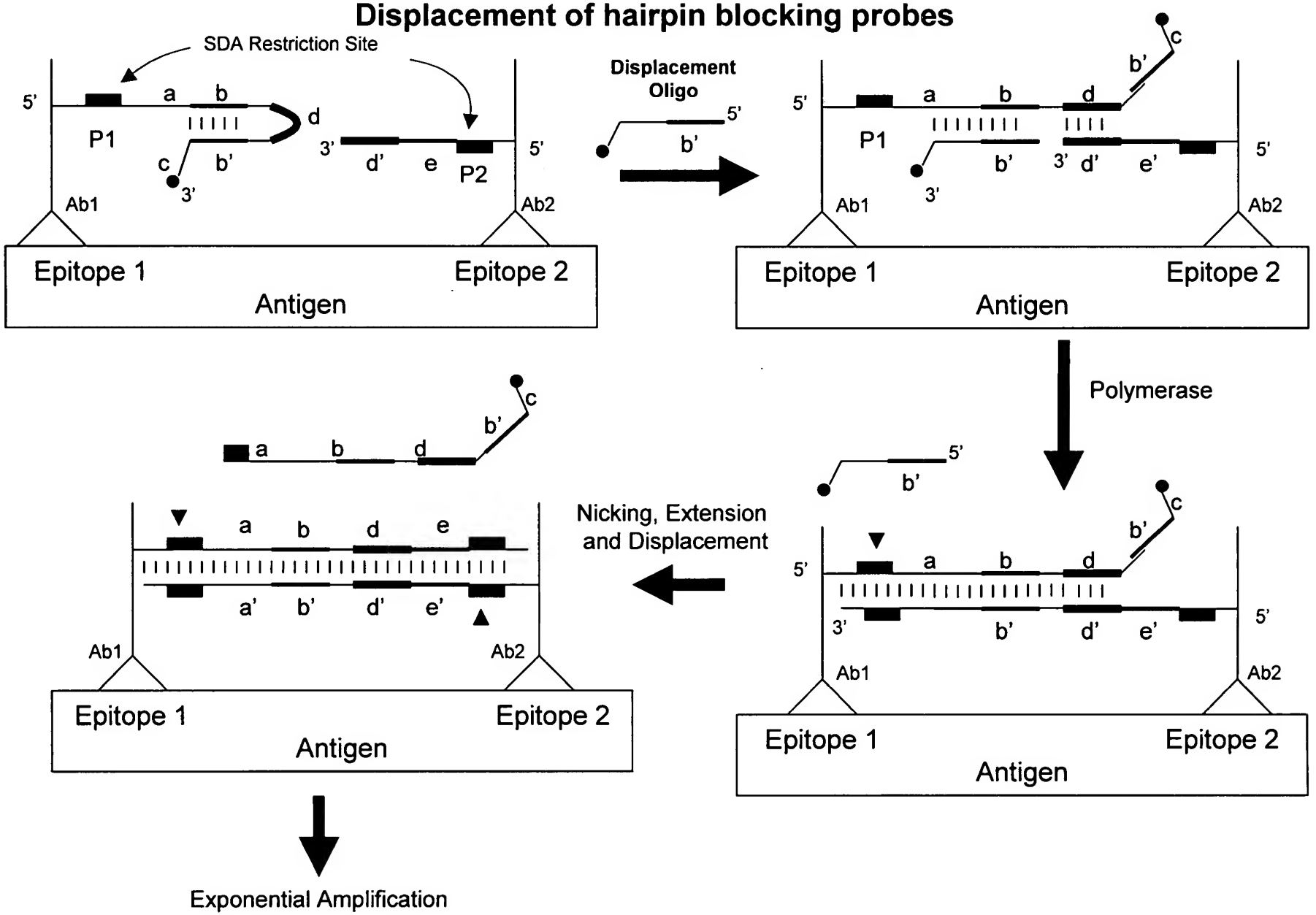


FIGURE 12
Detection of antigen-specific IgG

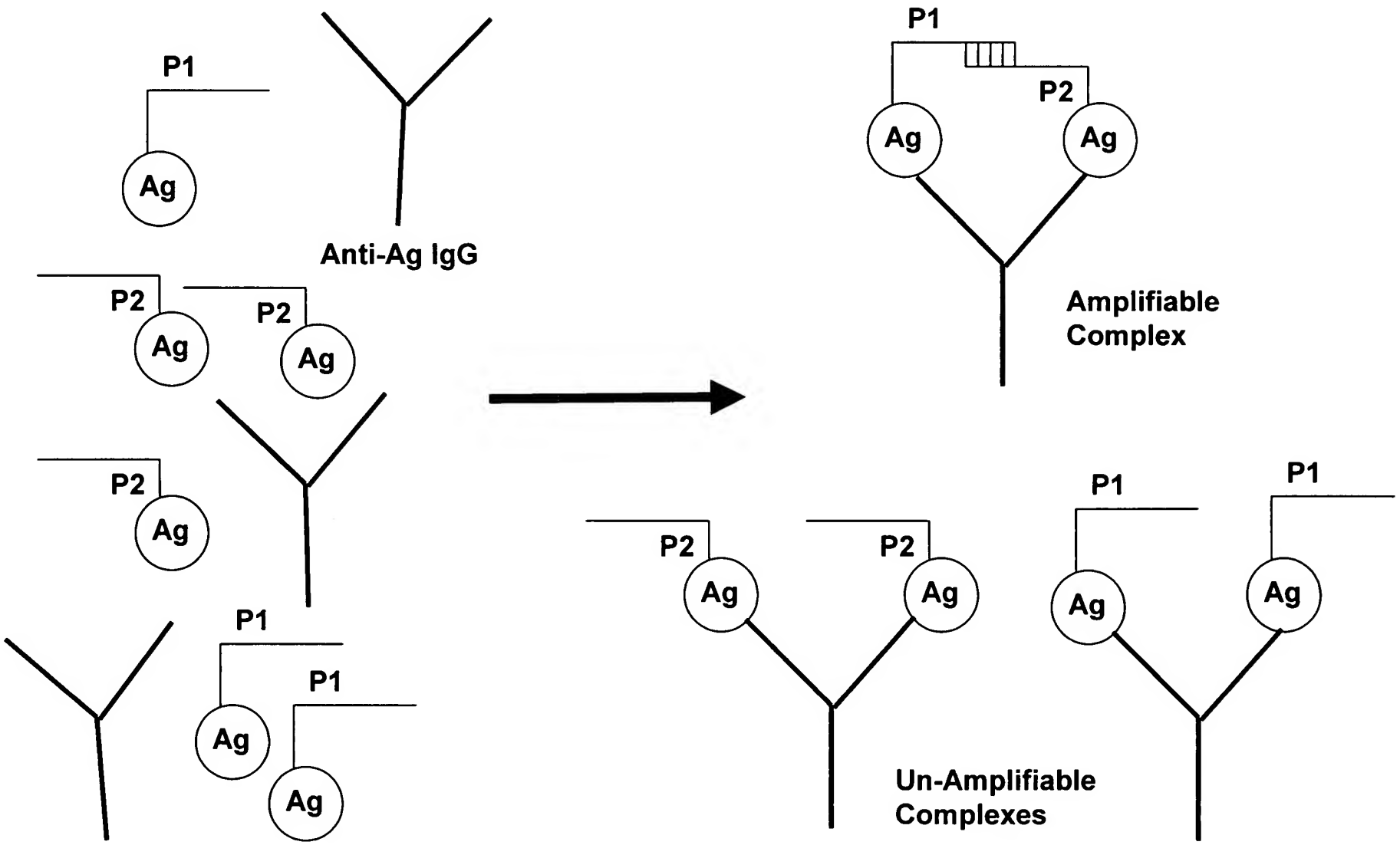


FIGURE 13

Map of probes, primers, tether oligos for binary immuno-SDA

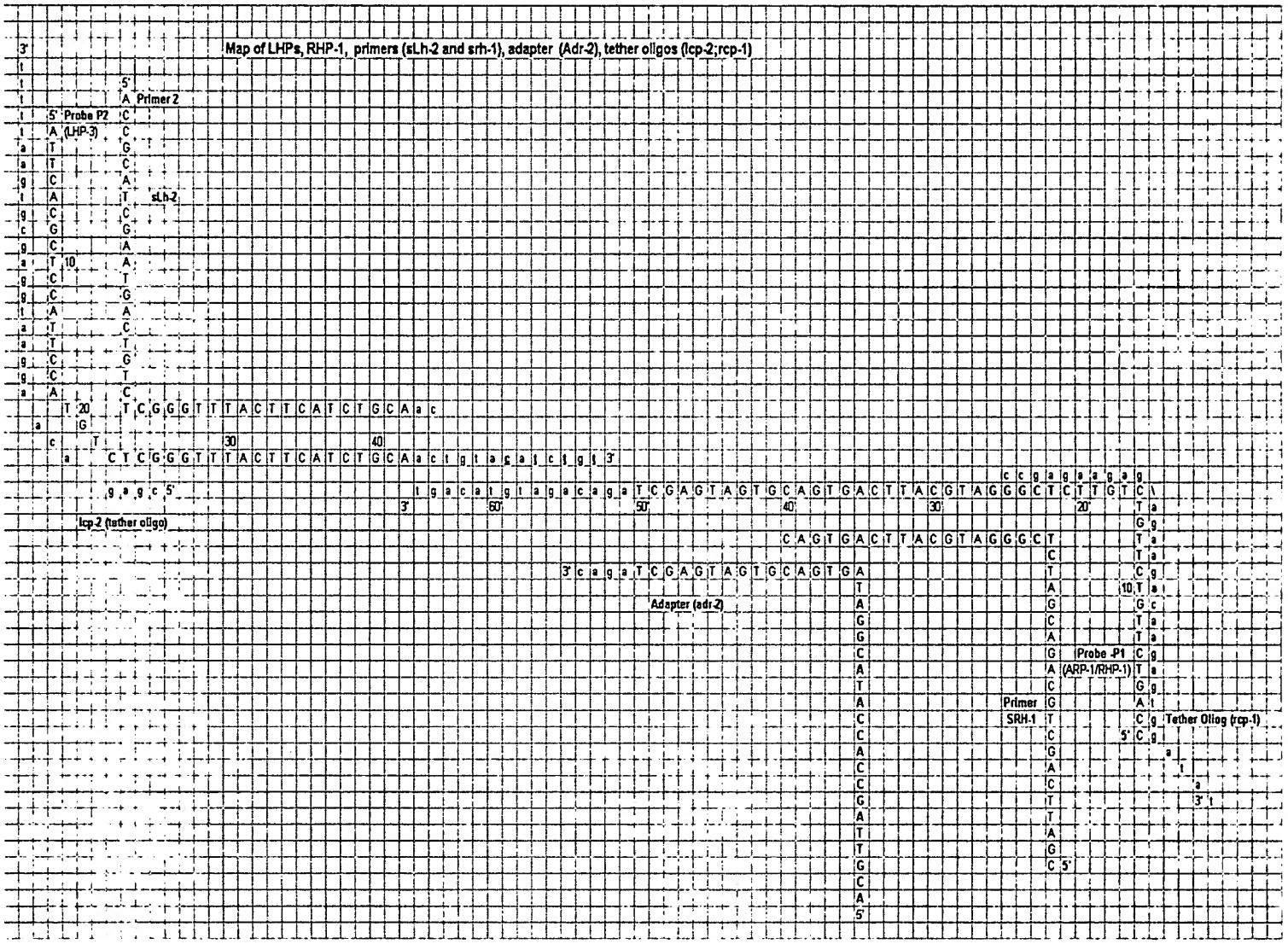


FIGURE 14A
Immuno-SDA using capped oligonucleotide probes: Mixing of antigens and oligonucleotide-conjugated antibodies

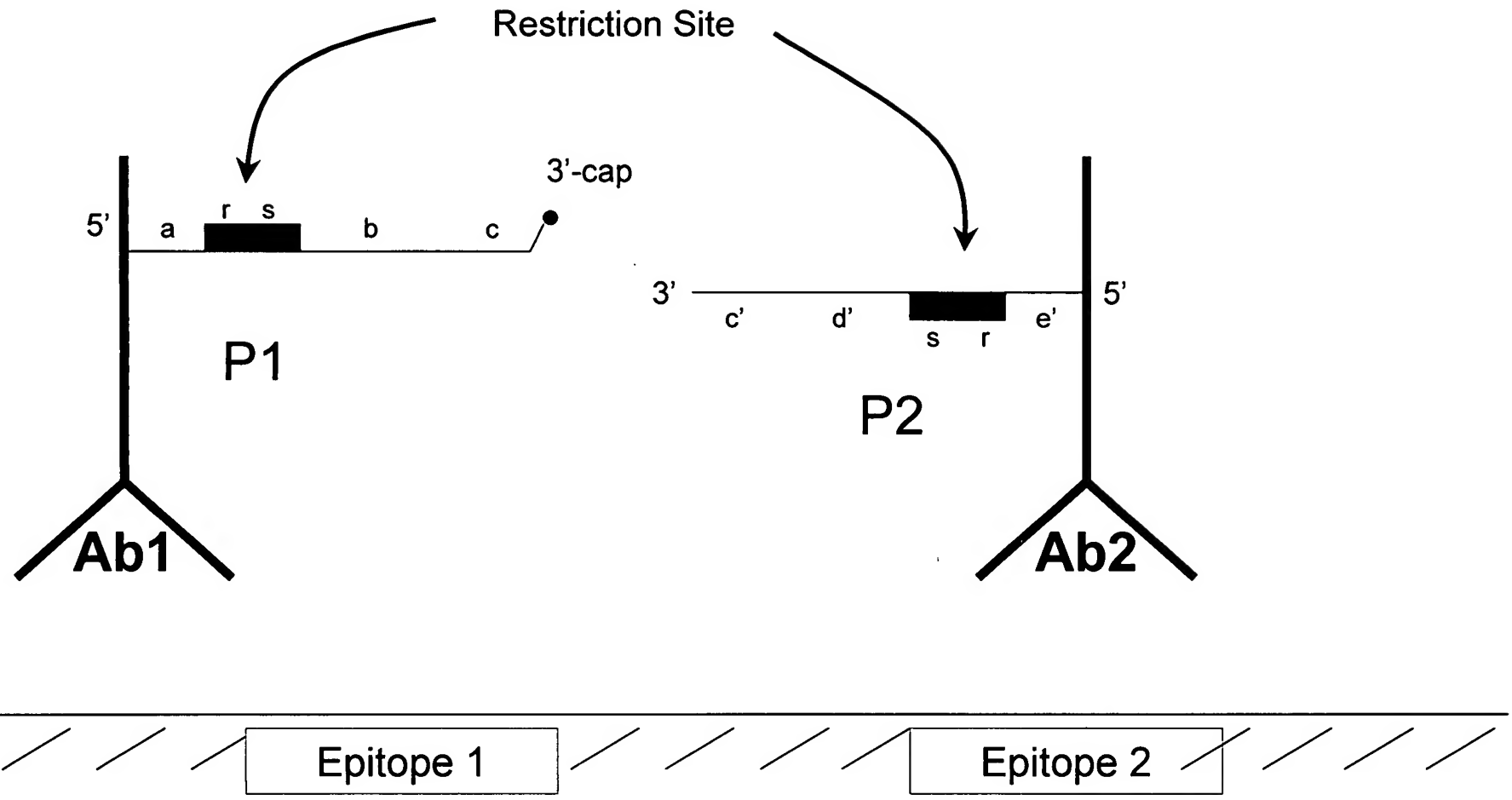


FIGURE 14B
Hybridization of adjacent probes

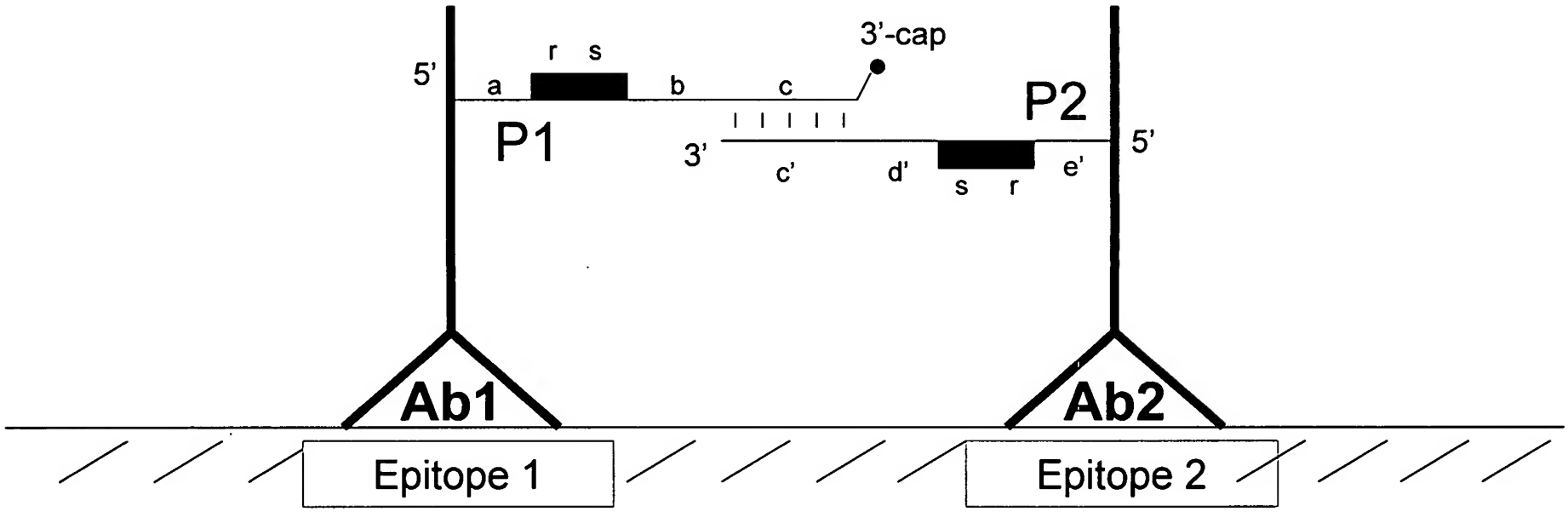


FIGURE 14C
Polymerase extension and restriction enzyme nicking

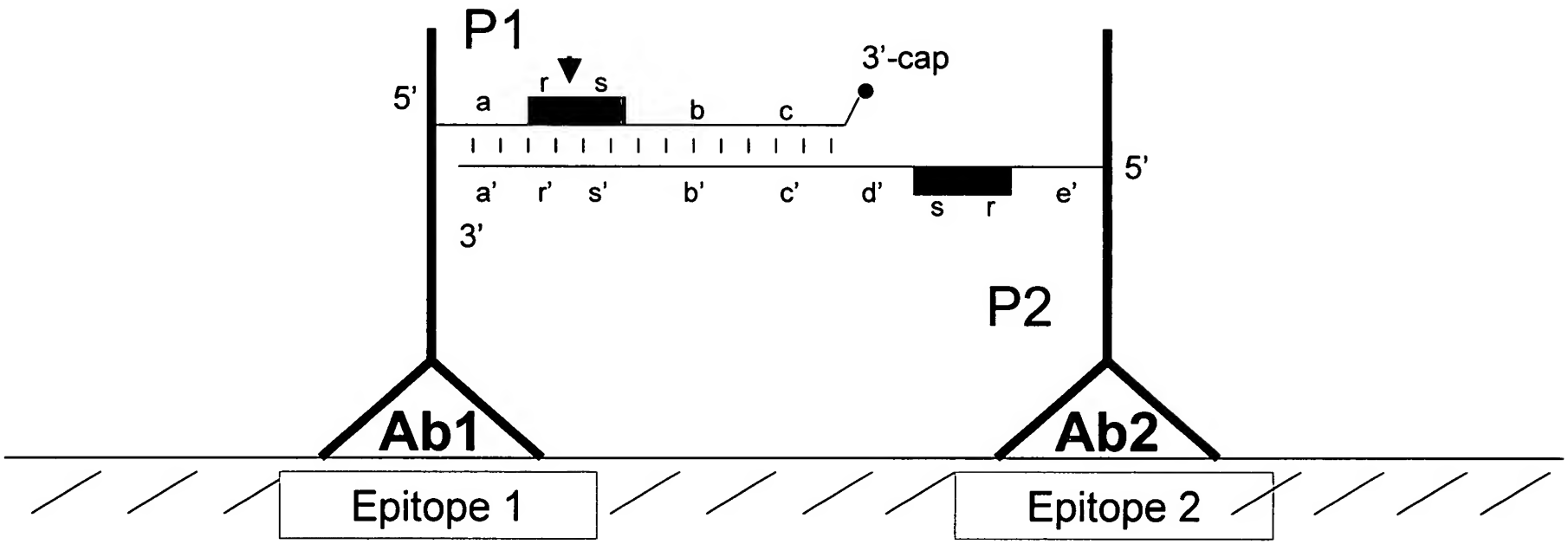


FIGURE 14D
Extension from nick and displacement of 3'-capped fragment

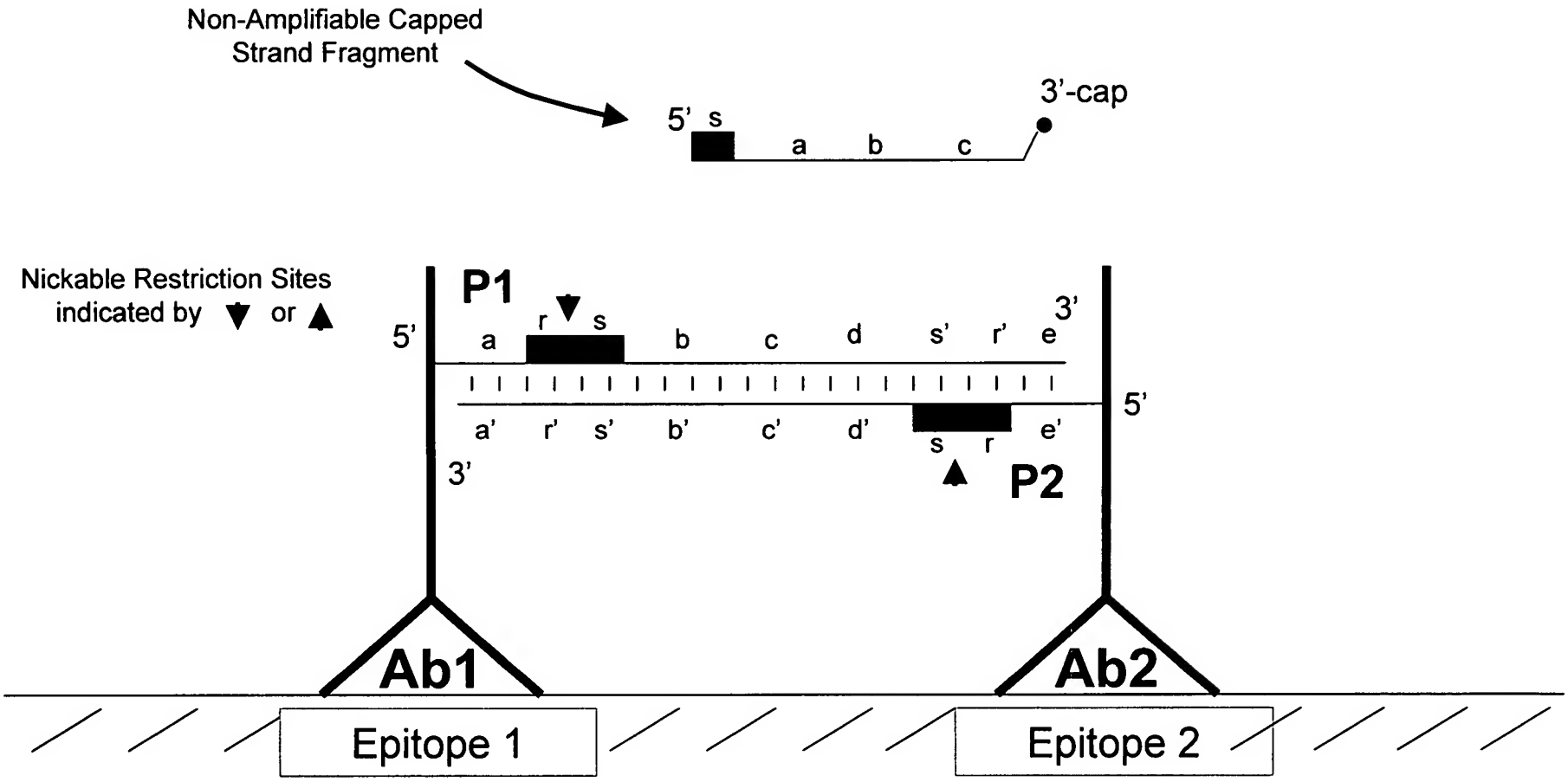


FIGURE 14E: Nicking, extension and displacement to produce amplifiable strands

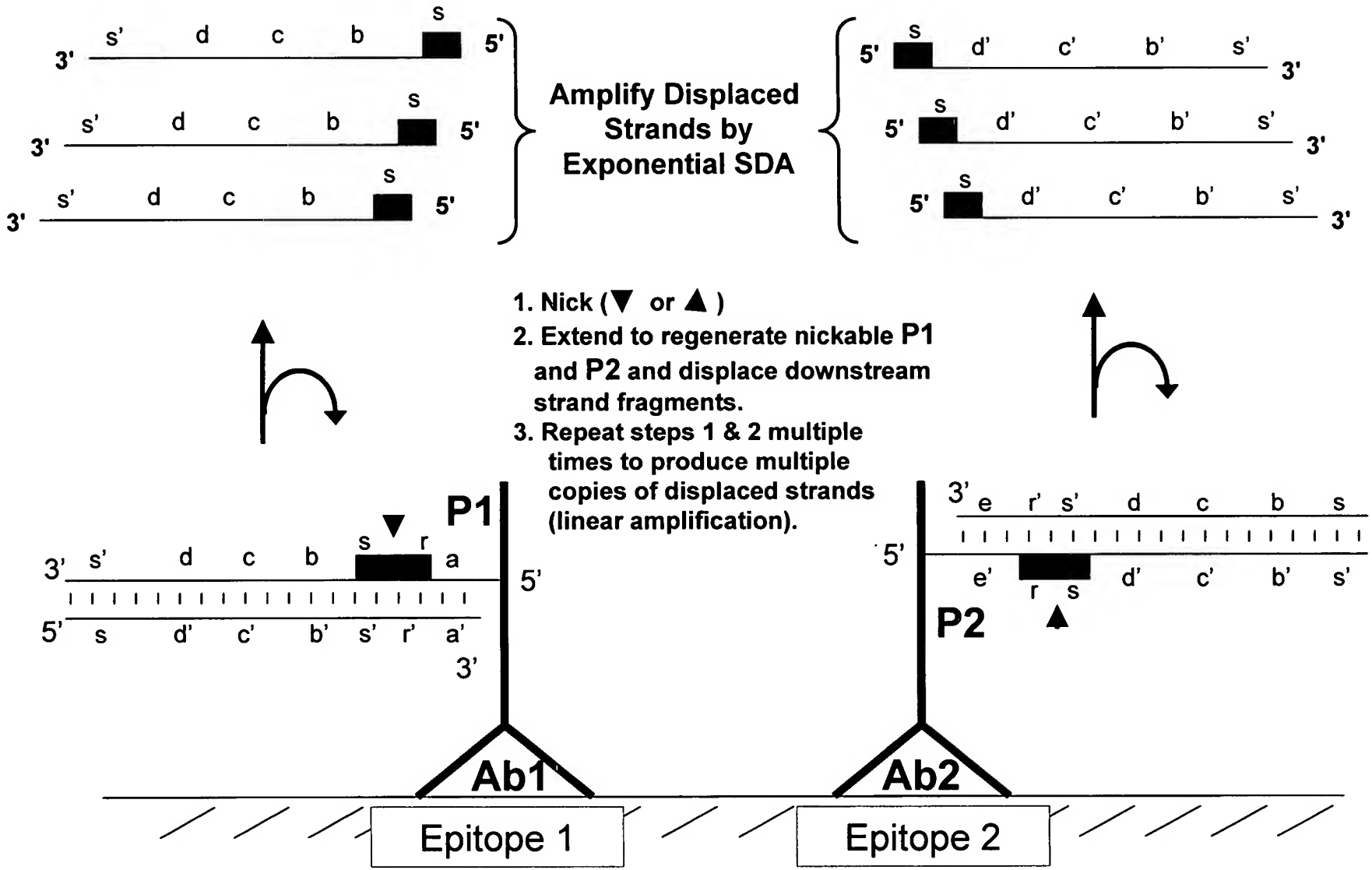


FIGURE 15A

Two-color, real-time fluorescence profile for immuno-SDA detection of IL-8

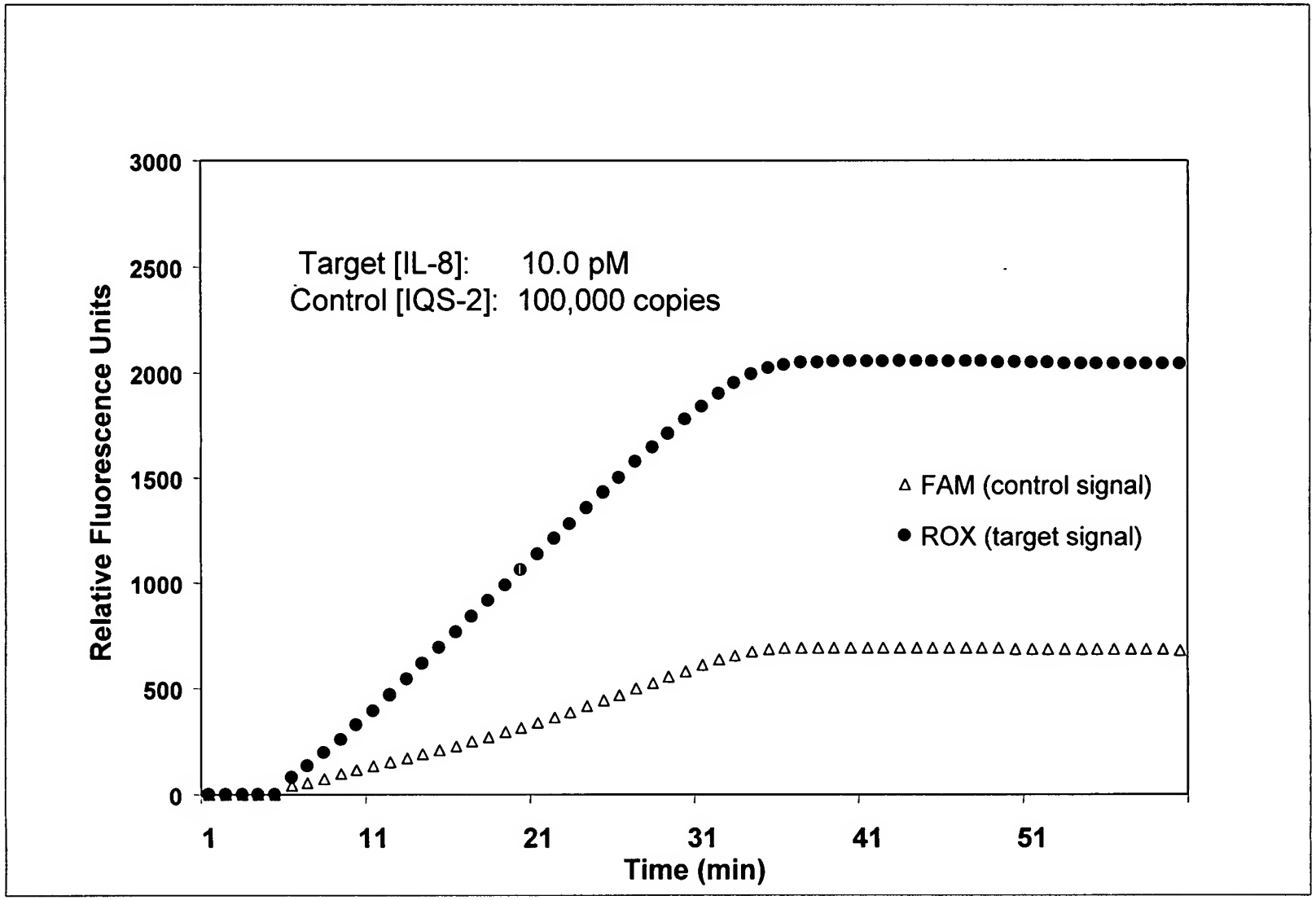
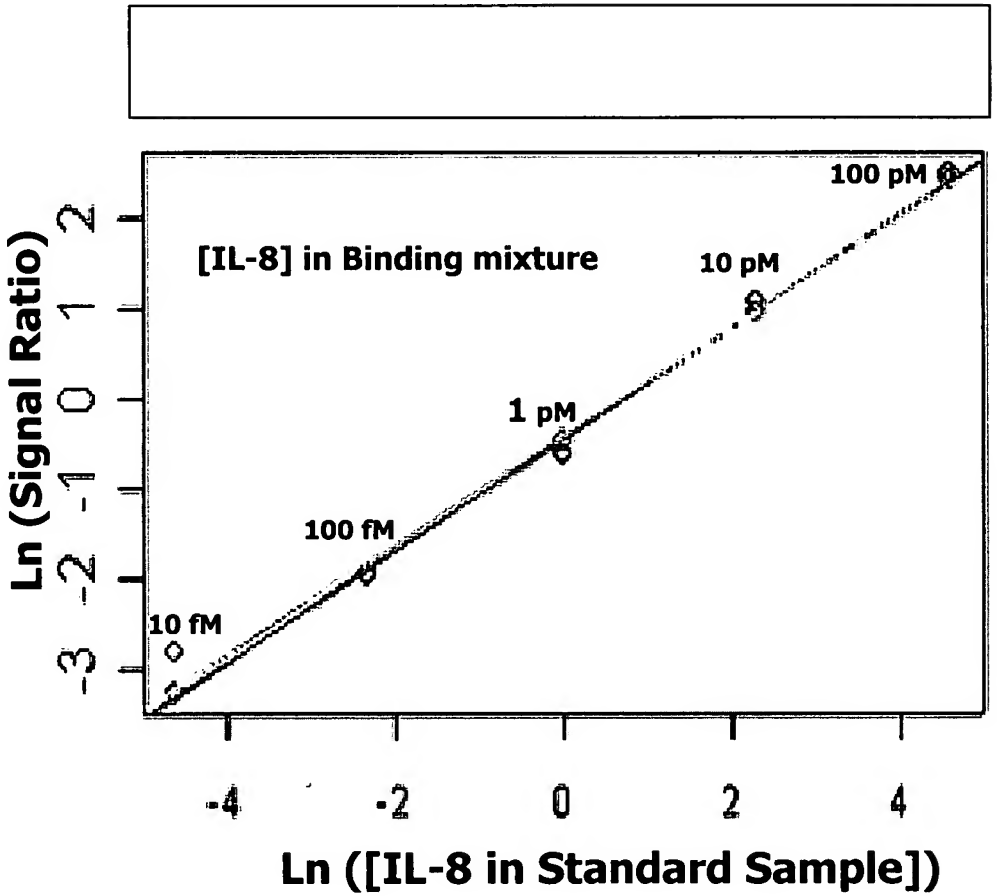


FIGURE 15B
Calibration line for quantification of IL-8



Signal Ratio from 8 minute time-point of SDA